1514. Sacquet (E.), Drouhet (E.), & Vallée (A.). **Un cas spontané de cryptococcose (Cryptococcus neoformans) chez la Souris.** [A case of spontaneous cryptococcosis (*C. neoformans*) in the Mouse.]—*Ann. Inst. Pasteur*, **97**, 2, pp. 252–253, 1 pl. (3 fig.), 1959. [Engl. summ.]

The 1st case is reported of spontaneous cryptococcosis (*C. neoformans*) in a white mouse, the affected animal being found at the Centre de Sélection des Animaux de Laboratoire, Gif-sur-Yvette, France. Multiple abscesses were present (at autopsy) in the kidneys and spleen and the fungus was noted in both organs.

1515. Mariat (F.). **Sur la culture de la phase levure de la souche Singe d'Histoplasma capsulatum.** [On the culture of the yeast phase of the Monkey strain of *H. capsulatum*.]—*Ann. Inst. Pasteur*, **97**, pp. 254–258, 1 pl. (5 fig.), 1959. [Engl. summ.]

In only 2 of very numerous experiments at the Inst. Pasteur, Paris, was it possible to obtain *in vitro* the yeast phase of *H. capsulatum* isolated from a large-form histoplasmosis of the African monkey [**2**, No. 2096]. In experimental conditions in which the yeast phase of normal strs. (classical or *duboisii*) of the fungus constantly developed, only filamentous, degenerating forms were obtained which, however, appeared to tend towards the yeast form.

1516. Liu (Yen-Fang). **Preliminary observations on the phosphatases of Cryptococcus neoformans. A histochemical study.**—*Chin. med. J.*, **79**, 2, pp. 138–142, 7 fig., 1959.

The cell of a *C. neoformans* str. studied at the Fourth Military med. Coll., Peking, was rich in acid phosphatase in both the parasitic and cultural states, without discernible variation in changing environments. The thick capsule developed in the parasitic state contained no such enzyme. Both cell and capsule were rich in alkaline phosphatase in the parasitic but not in the cultural state.

The development of alkaline phosphatase in the parasitic state is interpreted as a result of adaptation to the host, whereas the acid phosphatase is considered to be a constitutive enzyme.

1517. Minor (G. R.) & Corey (J. H.). **An epidemic of histoplasmosis in a family.**—*Dis. Chest*, **35**, 4, pp. 409–414, 7 fig., 1959. [Sp., Fr., Germ. summ.]

The outbreak here reported from the Division of Thoracic Surgery and the Dept of Pediatrics, Univ. Virginia Hosp., Charlottesville, involved 2 young parents and 4 children (5–11 yr.) who were all exposed at the same time to dust raised during the cleaning of a chicken house. Symptoms varied in severity from patient to patient. Chest roentgenograms showed pathology comparable with the severity of the symptoms in the individual cases. Skin tests and complement fixation tests were positive in every case. The illness lasted for about 6 weeks.

1518. Conrad (F. G.), Saslaw (S.), & Atwell (R. J.). **The protean manifestations of histoplasmosis as illustrated in twenty-three cases.**—*Arch. intern. Med.*, **104**, 5, pp. 692–709, 14 fig., 1959. [38 ref.]

Of 23 histoplasmosis (*Histoplasma capsulatum*) cases reported from Coll. Med., Ohio State Univ., with emphasis on symptomatology and diagnosis, 7 exhibited an acute disease resembling common respiratory infections: of these 1 died following

dissemination of the disease, another required lobectomy, and the remainder recovered spontaneously under symptomatic care. Of 8 exhibiting chronic, debilitating, pulmonary disease, resembling tuberculosis, 4 exhibited exacerbations and remissions during the course of the illness. One patient suffering from the disseminated disease exhibited multiple arthralgias and weakness, and was thought to have sarcoidosis: the condition cleared completely on a regimen of modified rest alone. A female patient, presented as a case of classical hypersplenism, died with cerebral vascular haemorrhage secondary to thrombocytopaenia.

It is concluded that treatment is mainly supportive, though surgery may be indicated for single localized lesions. Amphotericin B, given systemically, shows promise, but on account of side reactions it should be reserved for selected cases.

1519. Rudner (H. G.) & Bale (G. F.). **Acute Addisonian crisis and death due to histoplasmosis.**—*Sth. med. J.*, **52**, 12, pp. 491–494, 6 fig., 1959.

A case report from the Baptist Memorial Hosp., Memphis, Tenn., on a 59-yr.-old man with quiescent gout and progressive post-necrotic cirrhosis of the liver, complicated by probable disseminated infection by *Histoplasma capsulatum* and culminating in Addison's disease due to destruction of the adrenals by the fungus.

1520. Salyer (J. M.), Harrison (H. N.), Winn Jr. (D. F.), & Taylor (R. R.). **Chronic fibrous mediastinitis and superior vena caval obstruction due to histoplasmosis.**—*Dis. Chest*, **35**, 4, pp. 364–377, 16 fig., 1959. [Sp., Fr., Germ. summ.]

Four cases, in patients of 25–30 yr., are reported from the Fitzsimons Army Hosp. and U.S. Army med. Res. and Nutrition Lab., Denver, Col. Fibrous mediastinal lesions, exhibiting various degrees of calcification, were so extensive that pulmonary resections were either technically impossible or considered unwise. Morphologically typical cells of *Histoplasma capsulatum* were demonstrated in caseous material from a granulomatous lymph node in 1 patient, and cells highly suggestive of *H. capsulatum* in another. Multiple mediastinal biopsies from the other 2 patients were not conclusively diagnostic, in that no lymph node demonstrating early collagenous replacement of necrotic foci was encountered, but typical hyalinized fibrous and calcific tissue was present in abundance.

1521. Paula (A.), Blundi (E.), MacClure (E.), & Pernambuco (P.). **Histoplasmosis pulmonar. Tratamento pelo amphotericin-B.** [Pulmonary histoplasmosis. Treatment with amphotericin B.]—*Brasil méd.*, **73**, pp. 5–10, 1959.

In a patient with cough, haemoptysis, loss of weight, etc. a presumptive diagnosis of tumour was made after X-ray examination. A biopsy permitted the diagnosis of histoplasmosis (*Histoplasma capsulatum*) and the patient was successfully treated with amphotericin B, 5 g. daily per os, and 2 g. of sulphadiazine. The treatment was followed for 6 months with an interval of 45 days.

1522. André (M.), Orio (J.), DePoux (R.), & Drouhet (E.). **Histoplasmose africaine à grandes formes à localisations osseuses multiples. Évolution favorable après intervention chirurgicale et amphotéricine B.** [Large-spored African histoplasmosis with multiple osseous sites. Favourable development after surgical intervention and amphotericin B.]—*Bull. Soc. Path. exot.*, **52**, 3, pp. 345–352, 12 fig., 1959. [12 ref.]

This is a joint report from the Hôpital de Fort-Lamy and the Instituts Pasteur at Brazzaville and Paris on the 6th African case of infection (in a 25-yr.-old male native) by *Histoplasma duboisii*. It was remarkable from the clinical standpoint for

its onset with a cranial tumour, rapidly followed by symmetrical tibial metastases, and from the therapeutic standpoint for the apparently complete cure effected by the oral administration of amphotericin B [**3**, No. 576].

1523. Hill (G. A.) & Marcus (S.). **Resistance induced against Histoplasma capsulatum : quantitative aspects.**—*J. infect. Dis.*, **105**, 1, pp. 26–30, 1959. [12 ref.]

It was shown at the Coll. Med., Univ. Utah, Salt Lake City, that mice can be immunized against the lethal effect of systemic histoplasmosis by killed yeast-phase cells [**3**, No. 1206] or by sublethal inoculations with the latter. There was no difference in immunizing efficiency between vaccines derived from more or less virulent strains of the fungus. Moreover, similar resistance levels were achieved by the subcutaneous, intramuscular, and intravenous routes. Oral immunization produced no increase in resistance.

Data are presented on the quantitative extent of resistance induced by sublethal inoculation and immunization, estimated by the 'potency ratio' (LD_{50} for the control and infected groups), using Litchfield and Wilcoxon's method (*J. Pharmacol.*, **96**, pp. 99–113, 1949). The extent of resistance engendered by infection-immunity did not differ significantly from that induced by killed vaccine.

1524. Salvin (S. B.) with the technical assistance of Jane Nishio. **The influence of leucocytes from sensitized Mice on resistance to Histoplasma capsulatum.** —*Amer. J. Hyg.*, **68**, 3, pp. 233–241, 6 diag., 1958.

At the Rocky Mountain Lab., Hamilton, Mont., mice were injected with 1 of the following antigens: (*a*) live cells of the yeast phase of *H. capsulatum*, (*b*) killed cells of the same, (*c*) a cell-wall fraction, and (*d*) a cytoplasmic one. Leucocytes were obtained from the buffy coats of each group and injected intraperitoneally into normal recipient mice [cf. **3**, No. 1206]. Those that received leucocytes from donors injected with live or killed cells of the yeast phase or the cytoplasmic fraction contained, after challenge with 2×10^6 cells of the fungus, more cells of the organism than mice given leucocytes from normal donors, but no comparable increase was observed in recipients injected with a cell-wall fraction.

1525. Farid (Z.) & Barclay (W. R.). **Histoplasmosis. In vivo studies in the Rabbit ear chamber.**—*Arch. Path.*, **68**, 4, pp. 413–418, 8 fig., 1959.

At Dept Med., Univ. Chicago, 10 experimental primary *Histoplasma capsulatum* infections were followed in the vascularized connective tissue of the ear chamber of the rabbit (cf. W. R. Barclay *et al.*, *ibid.*, pp. 409–412, 1959). A small proportion of the inoculated spores were completely engulfed by macrophages before they broke up, while the remainder were surrounded by polymorphonuclear leucocytes and epithelioid cells. The spore wall eventually disintegrated to liberate the yeast phase of the organism: the liberation of these cells and their dissemination throughout the body was accompanied by the development of a positive skin reaction to histoplasmin and an intense local inflammatory reaction at the site of the infection. The primary infection was progressive, and immunity developed too late to limit extensive tissue destruction at the site of inoculation. On re-infection the inflammatory response was immediate and intense, with localized tissue destruction but with restriction of the spread of the infection: the healing process began early, before the end of the 2nd week, and proceeded to complete resolution of the infected area. Once resolution of re-infection histoplasmosis had occurred there was no tendency to recrudescence of the infection, even though spores could be seen in the revascularized area for as long as 1 month after their implantation.

1526. Long (Eleanor L.) & Weiss (D. L.). **Cerebral mucormycosis.**—*Amer. J. Med.*, **26**, 4, pp. 625–635, 2 fig., 1959.

A fatal case of cerebral mucormycosis in a 24-yr.-old negro woman is reported from

the Dept Path., District of Columbia General Hosp., Washington, D.C. The fungus was not cultured, but its morphological features in the tissues were considered typical of the Mucoraceae.

1527. Machado (J.) & Miranda (J. L.). **Considerações relativas a 238 casos consecutivos de blastomicose sul-americana.** [Comments on 238 cases of South American blastomycosis.]—*Hospital* (*Rio de J.*), **55**, 5, pp. 721–737, 1959. [Engl., Fr. summ.]

This study was made at the Hosp. Evandro Chagas and at several hospitals in Rio de Janeiro. The disease is most frequently observed in the 40–49 yr. group and the authors think that a long exposure to infection is needed. The sensitivity of the negroes seems identical with that of the whites. The infection is more frequent in rural areas, specially in farmers, and its rarity in women is attributed to occupational factors. The oropharynx would be the usual port of entry of *Paracoccidioides brasiliensis* but it is admitted that the fungus may enter the body also through the skin, the intestinal tract, the larynx, the perianal skin, and the lungs. The 1st clinical symptoms were pulmonary in 41 patients.

1528. Miranda (J. L.) & Machado (J.). **Considerações em torno da blastomicose sul-americana.** [Observations on South American blastomycosis.]—*Hospital* (*Rio de J.*), **56**, 1, pp. 93–117, 1959. [Engl., Fr. summ.]

Nine patients with South American blastomycosis (*Paracoccidioides brasiliensis*) were treated intravenously with amphotericin B at 0·25–1 mg./kg. according to 2 schedules. Some patients received a daily dose for 20 days and others a dose every other day for a month. The clinical effect on oropharyngeal, laryngeal, cutaneous and pulmonary lesions was excellent and rapid [**3**, No. 755]. Nevertheless relapses occurred in 7 patients after a few weeks and again after a 2nd series of injections. The side effects were disagreeable and several patients refused to continue the treatment. The authors consider that the drug must, however, be used in severe cases when a rapid effect is necessary for the recovery of the patient as well as in cases showing intolerance of or no response to sulphonamides [**3**, No. 284].

1529. Machado (J.) & Miranda (J. L.). **Sôbre a acção da sulfametoxipiridazina na blastomicose sul-americana.** [The action of sulphamethoxypiridazine in South American blastomycosis.]—*Rev. bras. Med.*, **16**, 3, pp. 168–170, 1959.

A dose of 0·5 g. was administered orally twice a day for 10 days and once a day afterwards. Four patients died a few days after the beginning of the treatment; one of them with 'cor pulmonale'. In 8 others the oropharyngeal and cutaneous lesions and those of the lymphatic nodes improved rapidly in 15 to 45 days. The pulmonary lesions also showed a rapid improvement and disappeared in some cases, although a definitive cure is not affirmed. The practical advantages of the drug for the treatment of out-patients are emphasized.

1530. Assis (L. M.), Bloise (W.), Netto (A. S. C.), Burattini (E. L.), Guerios (M. F.), Epps (D. R.), Borelli (A.), Flosi (A. Z.), & Cintra (A. B. U.). **Oito casos de doença de Addison. A blastomicose sul-americana como possível fator etiológico em dois casos.** [Eight cases of Addison's disease. South American blastomycosis as a probable cause in two cases.]—*Rev. Ass. méd. bras.*, **5**, 1, pp. 56–71, 1959. [Engl. summ.]

Two and 3 yr. after the onset of blastomycotic lesions in the oropharynx clinical symptoms and laboratory findings of adrenal failure were registered in 2 patients [**3**, No. 438]. Both also showed pulmonary lesions. The oropharyngeal, lymphatic, and pulmonary lesions showed a transient improvement after treatment with

sulphadiazine. The invasion of the adrenal glands by *Paracoccidioides brasiliensis* was suspected [**1**, No. 2260].

1531. Wegmann (T.) & Zollinger (H. U.). **Tuberkuloide Granulome im Mundschleimhaut und Halslymphknoten : südamerikanische Blastomykose.** [Tuberculoid granulomata in the oral mucous membrane and throat lymph nodes: S. American blastomycosis.]—*Schweiz. med. Wschr.*, **89**, 44, pp. 1151–1153, 4 fig., 1959. [Engl. summ.]

Diagnosis in the case of infection by *Blastomyces* [*Paracoccidioides*] *brasiliensis* involving the lungs and oral cavity, herein reported from the Kantonsspital, St. Gallen, was established by histological examination of 3 biopsy specimens and by culture. Rapid remission of the pulmonary changes followed a course of therapy with hydroxystilbamidin and orisul, and the original buccal lesion also disappeared, but a new one developed in the mouth. In the course of his work as a cabinet-maker, the patient had been exposed to dust from tropical woods for many years, first in São Paulo, Brazil, and subsequently in Switzerland. Infection is presumed to have occurred through the air.

1532. Lacaz (C. da S.), Ulson (Cecilia M.), & Sampaio (S. de A. P.). **Acção in vitro da anfotericina B sôbre o Paracoccidioides brasiliensis.** [*In vitro* action of amphotericin B on *P. brasiliensis*.]—*Rev. paul. Med.*, **54**, 5, pp. 357–360, 1959. [5 ref.]

At the Faculdade de Medicina, Univ. São Paulo, Brazil, amphotericin B [cf. **3**, No. 756] at 0·243–500 μg./ml. suppressed the growth on Sabouraud broth at 22–24° C. of each of 3 'samples' of *Paracoccidioides brasiliensis* (inocula from cerebriform variants, maintained at 37°). At 0·06 and 0·121 μg./ml. there was reduced growth with 2 of the 'samples', but none with the 3rd.

1533. Mackinnon (J. E.). **Miositis en la blastomicosis sudamericana experimental.** [Myositis in experimental South American blastomycosis.]—*An. Fac. Med. Montevideo*, **44**, 1–2, pp. 149–155, 3 pl. (12 fig.), 1959. [Engl. summ.]

From the Instituto de Higiene, Montevideo, Uruguay, the author reports that a myositis of the striated muscles together with evolutive disseminated visceral lesions was observed in all of 18 mice inoculated intravenously with a suspension of the yeast-like form of *Paracoccidioides brasiliensis*. The disease developed rather slowly and lesions were observed in the myocardium, in the tongue, and in the oropharyngeal, skeletal, and perianal striated muscles. When the superficial muscles of the tongue were reached the fungus invaded the epithelium. No lesions of the small muscles were observed.

After intraperitoneal inoculation local lesions developed slowly in 41 of 42 mice, 25 mice showing pulmonary lesions, and 13 hematogenous dissemination to several viscera and to striated muscles. All the 13 mice with hematogenous spread had pulmonary lesions. The affinity of the fungus for the lymphatic organs was also evident.

The histopathology shows that the initial lesion in the muscles is an endovasculitis in the capillaries. Histiocitic reaction is provoked and a rapid degeneration and necrosis of the muscular fibres follows. In the mice with pulmonary lesions erosion of the wall of the pulmonary veins could be seen.

1534. Mackinnon (J. E.). **Pathogenesis of South American blastomycosis.**—*Trans. R. Soc. trop. Med. Hyg.*, **53**, 6, pp. 487–494, 5 fig., 1959. [27 ref.]

The symptoms resulting from the inoculation of mice with *Paracoccidioides brasiliensis* by the broncho-pulmonary, intravenous, peritoneal, and muscular (tongue and eyes) routes at the Instituto de Higiene, Montevideo, Uruguay, are described and discussed.

1535. Netto (Celeste F.), Ferri (R. G.), & Lacaz (C. da S.). **Proteinograma e algumas 'provas da fase aguda do sôro' na blastomicose sul-americana. Estudo comparativo com as reacções de fixação do complemento e de precipitação.** [The protein picture and some 'acute phase serum tests' in South American blastomycosis. A comparative study of the complement fixation and precipitin reactions.]—*Med. Cirurg. Farm.*, **277**, pp. 157–163, 1959. [Engl. summ. 10 ref.]

At the Faculdade da Medicina, Univ. São Paulo, 47 serum samples from patients with South American blastomycosis [*Paracoccidioides brasiliensis*] were examined by electrophoresis, complement fixation, the precipitin reaction, and 'acute phase serum tests'. Grassman & Hannig's method (*Paper Chromatography*, 1954) was used for the protein estimations. There was a reduction of albumin in 89% of cases, and a rise of γ globulin in 76·6%. Slight alterations were perceptible in the α, α_2, and β globulins. The results of complement fixation tests and the precipitin tests (technique by C. F. Netto, to be published) agreed closely with the clinical aspects and with the other tests. C reactive protein was always present in serious cases, and absent in certain clinically cured cases. Octab's reaction, with a quaternary ammonium salt, was of value. In all cases where the mucoprotein tyrosin level was above 4 mg./100 ml. serum the infection was active, though in some very active infections the level was normal.

1536. Wijngaarde (E. G.) & Stolze (E.). **Rhinosporidiosis in Surinam.**—*Trop. & geogr. Med.*, **10**, 1, pp. 34–36, 3 fig., 1958.

A clinical and pathological report on the 1st case of infection by *Rhinosporidium seeberi* in Surinam, which simulated a conjunctival tumour in the right eye of a 14-yr.-old Hindustani boy.

1537. Brygoo (E. R.), Bermond (C.), & Dodin (A.). **Premier cas malgache de rhinosporidiose.** [First Madagascan case of rhinosporidiosis.]—*Bull. Soc. Path. exot.*, **52**, 2, pp. 137–140, 1959. [15 ref.]

A report from the Institut Pasteur de Madagascar and the Hôpital Provincial de Tananarive on ocular infection by *Rhinosporidium seeberi* in a 25-yr.-old farmer.

1538 *a*. Heim (R.) & Wasson (R. G.), with the collaboration of A. Hofmann, R. Cailleux, A. Cerletti, A. Brack, H. Kobel, J. Delay, P. Pichot, Th. Lemperière, & P. J. Nicolas-Charles. **Les champignons hallucinogènes du Mexique. Études ethnologiques, taxinomiques, biologiques, physiologiques et chimiques.**—Éditions du Muséum National d'Histoire Naturelle, Paris, 1958. 28.000 F. (£23).

b. Gäumann (E.). **Rauschzustände nach Pilzgenuß.** [Intoxication after consumption of fungi.]—*Experientia, Basel*, **15**, 9, p. 363, 1959. [Engl. summ.]

c. Guzman (G. H.). **Sinopsis de los conocimientos sobre los hongos alucinogenos mexicanos.** [Synopsis of knowledge on Mexican hallucinogenic fungi.]—*Bol. Soc. bot. Méx.*, **24**, pp. 14–34, 5 fig., 1 map, 1959. [40 ref.]

Three reviews on hallucinogenic agarics [cf. **3**, No. 777 and below].

1539. Ortiz-Galvan (A.) & Baldwin (M.). **Algunos aspectos neurológicos de los hongos alucinatorios mexicanos.** [Some neurological effects of the hallucinogenic mushrooms from Mexico.]—*Rev. méd. Hosp. Gen.* (*Méx.*), **22**, 2, pp. 137–150, 1959.

In experiments with sporophores of *Psilocybe caerulescens* var. *mazatecorum* [**3**, No. 158] the ingestion of 12 g. produced mild effects in a man. Doses of 20–40 g. were

given to monkeys. After 15 min. a chimpanzee became quiet and meek; the muscular tone weakened but no ataxia or visual disorders were evident to the observer. After 1 hr. the animal returned to its normal behaviour.

After extirpation of the temporal lobe of the brain meekness and flaccidity were not recorded in a 2nd chimpanzee. The neurologic effects of psilocybin [**3**, No. 598] are compared with the temporal lobe epilepsy.

1540. Stein (S. I.), Closs (G. L.), & Gabel (N. W.). **Observations on pychoneurophysiologically significant mushrooms. I. Clinical details pertaining to the ingestion of Panaeolus venenosus and Psilocybe caerulescens mushrooms.**—*Mycopathologie*, **11**, 3, pp. 205–216, 1 fig., 1 graph, 1959.

An account is given of the signs and symptoms in a doctor volunteer who ate raw samples of *Panaeolus venenosus* and *Psilocybe caerulescens*. When extracts of *P. venenosus*, *P. sphrinctrinus*, and of *Ps. caerulescens*, *Ps. cubensis*, and *Ps. mexicana* were compared by paper chromatography at the Chemistry Dept, Chicago Univ., it was found that neither of the *Panaeolus* spp. contained psilocybin, a constituent of the 3 *Psilocybe* spp.

A crystalline substance obtained from *P. venenosus*, found to possess the same chromophore as psilocybin, is probably the active compound of this fungus.

1541. Stein (S. I.). **Clinical observations on the effects of Panaeolus venenosus versus Psilocybe caerulescens mushrooms.**—*Mycologia*, **51**, 1, pp. 49–50, 1959.

Evidence is reported that *Panaeolus venenosus* contains a psychoneurophysiologic ingredient. Its effect upon a male patient was different from that of *Psilocybe caerulescens*, being mainly europhoriant and devoid of undesirable side-effects.

1542. Eugster (C. H.). **Was ist Muscarin?** [What is muscarin?]—*Schweiz. Z. Pilzkunde*, **38**, 3, pp. 37–44, 1960.

In extensive studies at the Organisch-Chemischen Institut, Univ. Zurich, since 1953, muscarin was isolated in the first instance from the fly agaric [*Amanita muscaria*], and separated only with great difficulty. Eight stereoisomers have subsequently been synthesized. Muscarin is present in a number of *Inocybe* spp., and *I. patouillardii* was found to contain 0·037% of muscarin chloride, *i.e.* a content 150–200 times that of *A. muscaria*. Of the possible biological tests that with the frog's heart is preferred, but confirmatory chemical tests are necessary, which means that all published data on the muscarin content of fungi need confirmation.

1543. Fortushnȳĭ (V. A.), Govorov (A. M.), Tsȳbenko (I. Z.), Boĭchenko (A. S.), & Kalitenko (E. T.) Стахиботриотоксикоз крупного рогатого скота и его лечение. [Stachybotriomycosis in Cattle and its treatment.]—*Veterinariya*, **36**, 9, pp. 67–70, 1959.

In 1958–9 stachybotriomycosis of cattle was recorded in 5 regions of the Ukraine. About 4,000 head of cattle were affected, many died. The outbreaks arise in the stall and quickly affect nearly all the animals, adults more severely than the young. Symptoms are described. Examination of straw fodder showed the presence of *Stachybotrys alternans* in large quantities. The development of the disease was checked by excluding infected fodder when most of the affected animals recovered.

1544. Stepanyuk (A. N.), Nikol'skiĭ (V. S.), & Rȳbka (N. V.). Микотоксикозы крупного рогатого скота. [Mycotoxicosis of Cattle.]—*Veterinariya*, **36**, 10, pp. 65–66, 1959.

Large-scale mycotoxicosis of cows was observed at a State Collective Farm in the Vinnitskaya region caused by giving poor quality oat straw as fodder. This was shown to be slightly infected with various mould fungi and heavily infected with

Stachybotrys alternans. The results of feeding 206 cows on infected straw during 10–29 Nov., 1958 are described; 10 days after the use of this fodder was stopped the outbreak ended.

1545. Marchenko (G. F.) & Resnyanskaya (Mme E. V.). Фузариотоксикоз в ставропольском крае. [Fusariotoxicosis in the Stavropol' area.]—*Veterinariya*, **36**, 9, pp. 70–72, 1959.

An infection in pigs at a number of pig farms in the Stavropol' area, which were fed on fodders prepared from cereals overwintering in the field, was noted from Dec. 1957. Ether extracts from 16 samples of fodder when tested on rabbits showed the presence of a fungal toxin. Following further mycological studies of fodder samples, 4 strs. of *Fusarium sporotrichioides* were isolated. The symptoms of fusariotoxicosis in pigs are described. Duration varies from a few days to several weeks. Good quality uninfected fodder is recommended. If grain overwintering in the field has to be used, it must be carefully examined.

1546. Fomichev (V. F.). Случай массового отравления свиней грибом *Fusarium sporotrichioides*. [A case of large-scale poisoning of Pigs by *F. sporotrichioides*.] —*Veterinariya*, **36**, 9, p. 73, 1959.

At the Sakmar Collective State farm after eating wheat exposed to snow and rain for a long time, 10 pigs died and 29 had to be slaughtered. Toxicity for white mice was established experimentally. *F. sporotrichioides* was isolated from samples of the wheat.

1547. *a*. **Annual Report 1958–59.**—Pp. 42, Animal Res. Div., N. Z. Dept Agric., 1959.

Current research on facial eczema [**3**, No. 1380 and below] is reviewed (pp. 11–13) and publications on this disorder of sheep are listed (pp. 37–42).

b. Johns (A. T.). **Facial eczema research in the Department of Scientific and Industrial Research.**—*Sheepfarming Ann. 1959*, pp. 47–57, 1 fig., 1959.

A review.

c. **Symposium on facial eczema research.**—*Proc. N. Z. Soc. Animal Production*, **19**, pp. 44–87, 1959.

An introduction by C. P. McMeekan is followed by a series of concise reviews of different aspects of this disorder. The pathology is dealt with by D. C. Dodd (pp. 48–52), the collection of toxic grass and the preservation of toxicity by N. T. Clare (pp. 53–58), biological assay by N. A. Worker (pp. 59–63), chemical extraction of the toxin by E. P. White (pp. 64–68), the beaker test by N. T. Clare (pp. 69–74), the association of *Sporisdesmium bakeri* with facial eczema by J. C. Percival (pp. 75–82), and the identification of *S. bakeri* by R. H. Thornton (pp. 83–87).

1548. *a*. McFarlane (D.), Evans (J. V.), & Reid (C. S. W.). **Photosensitivity diseases in New Zealand. XIV. The pathogenesis of facial eczema.**—*N. Z. J. agric. Res.*, **2**, pp. 194–200, 14 fig., 1959. [*V.B.*, **29**, p. 581].

b. Perrin (D. D.). **Photosensitivity diseases in New Zealand. XV. A chemical procedure for the detection of facial eczema toxicity in pasture.**—*N. Z. J. agric. Res.*, **2**, pp. 266–273, 1959. [*V.B.*, **30**, p. 42].

c. Sandos (J.), Clare (N. T.), & White (E. P.). **Photosensitivity diseases in New Zealand. XVI. Improved procedure for the beaker test for facial-eczema toxicity.**—*N. Z. J. agric. Res.*, **2**, pp. 623–626, 1959. [*V.B.*, **30**, p. 42.]

XIV gives pathological details; XV and XVI procedure for the 'beaker test'. [Cf. **3**, No. 1381].

1549. Mitchell (K. J.), Walshe (T. O.), & Robertson (N. G.). **Weather conditions associated with outbreaks of facial eczema.**—*N. Z. J. agric. Res.*, **2**, pp. 584–604, 1959. [*V.B.*, **30**, p. 43.]

It is concluded that there is a high probability of subsequent outbreaks if during December the soil temp. at 8 in. averages over 65° C. and there is no 'soaking' rain (i.e. rain sufficient to bring the soil up to field capacity).

1550. Ross (D. J.). **A study of the physiology of Sporidesmium bakeri Syd. I. Nutrition.**—*N. Z. J. Sci.*, **3**, 1, pp. 15–25, 1960.

At the Soil Bureau, D.S.I.R., Wellington [cf. **3**, 1380], *S. bakeri* grew over a wide pH range. The opt. temp. for growth was 24° C., and for sporulation 28°. Nutritional requirements were simple, but sporulation was best on non-defined media, particularly potato-carrot extract [cf. **3**, 1382]. γ-Amino-n-butyric acid and asparagine favoured spore production by a heavily sporing str. in a synthetic medium. Growth in a synthetic medium was stimulated by the addition of trace metals.

1551. Ellis (M. B.). **Dematiaceous hyphomycetes : 1.**—*Mycol. Pap.* 76, pp. 36, 22 fig., 1960. 10*s*.

On the basis of studies at the Commonwealth mycol. Inst., Kew, *Sporidesmium chartarum*, of which *S. bakeri* (the cause of facial eczema in sheep [see above]) is listed as a synonym, is renamed *Pithomyces chartarum* (Berk. & Curt.) M. B. Ellis.

1552. Golan (R. B.). **A study of air-borne fungi in Israel.**—*Bull. Res. Coun. Israel*, Sect. D, **6**D, 4, pp. 247–258, 27 graphs, 1958. [16 ref.]

In studies at Dept Bot., Hebrew Univ., Jerusalem, Petri dishes of Czapek's agar were exposed for 15 min. every 2nd day for 3 successive years (June 1950–June 1953) in Tel-Aviv and for 1 yr. at 5 other places in Israel. A seasonal variation in the number of fungal spores in the air was established, only a few being present in winter and the number increasing from then onwards. The fungi most frequently caught were: *Hormodendrum* (35–65% of total catch); *Alternaria* (6–11%); *Penicillium* (5–14%); *Aspergillus* (2·5–9%), and miscellaneous fungi 13–29%. Collections were also made from an aeroplane up to 2,000 m. Up to 300 m. numerous fungi were found, the numbers greatly decreasing as 1,000 m. was approached. Above 1,000 m. spores were rarely caught. Spores were also collected from ships on the Mediterranean Sea at various distances from the shore. No area was entirely free from air-borne spores. The spp. recorded were identical with those found over land.

1553. Coquillat (M.) & Besseyre (M.). **Au sujet d'une dermatite causée par le 'champignon' de la Canne de Provence.** [On a dermatitis caused by the 'fungus' on *Arundo donax*.]—*Bull. mens. Soc. linn. Lyon*, **28**, 7, pp. 236–239, 1959.

In May 1958, a party of 4 workmen from Lyons engaged in fixing laths made from the giant reed (*A. donax*) on a ceiling about to be plastered were obliged to stop work after being only a few hours on the task, because of headaches, sore throat, and blood-spitting. A local doctor diagnosed allergy and after 5 days away from work under treatment the men recovered. The authors state that the condition set up by *A. donax* is well known in Provence ('maladie du frient'). The canes are cut in winter, stored until the end of the summer, and fashioned in autumn, during which time they are exposed to rain and become invaded by numerous fungi.

1554. Spesivtseva (Mme N. A.) & Moroshkin (B. F.). Роль грибов в этиологии аллергического бронхита. [The role of fungi in the etiology of allergic

bronchitis.]—Бюлл. н.-т. Информ., Всес. н.-и. Ин-т вет. Санит. Эктопаразит. [*Byull. n.-t. Inform., Vses. n.-i. In-t vet. Sanit. Éktoparazit.*], 2, p. 51, 1957.

Large-scale allergic bronchitis in horses resulted from inhaling fungal spores from the atmosphere, especially when feeding on infected hay. A study of 10 samples of hay revealed: *Aspergillus*, *Penicillium*, *Cladosporium*, *Alternaria*, *Verticillium*, *Fusarium*, *Helminthosporium*, *Trichothecium*, Mucorales, etc.

1555. **Table ronde sur les mycoses.** [Reunion on mycoses.]—*Path. Biol.*, **7**, 3–4, pp. 442–444, 1959.

Summaries are given of the papers read at a meeting in Paris, presided over by Prof. Mollaret (Hôpital Claude-Bernard). F. Mariat (Institut Pasteur) spoke on actinomycoses. G. Segretain (Institut Pasteur) distinguished between 3 clinical forms of aspergillosis, bronchitic, broncho-pulmonary, and diffuse. E. Drouhet (Institut Pasteur) dealt with candidiasis and antifungal antibiotics; he stated that infections by *Candida* spp. are the commonest form of mycosis in France and are best treated with nystatin. G. T. Stewart (Children's Hosp., London) compared the effects of 5 groups of anti-fungal materials upon *Candida*, *Nocardia*, *Aspergillus*, *Microsporum*, and *Trichophyton* spp. Oxyquinoline chlorate in position 2 or 5 is active against all at therapeutic dosages of 1–10 mg./ml. The antibiotic polyenes exert a similar activity against *Candida* and *Microsporum* as pentamidine does against *Aspergillus*. The presence of carbohydrate in the substrate acts in various ways upon anti-fungal materials. Glucose is antagonistic to the action of polyenes upon *Candida*, while levulose, though utilized, is not. This action, parallel with fungistasis, suggests that the anti-fungal effect may perhaps interfere with the utilization and metabolism of carbohydrates. P. Burtin (Service of Prof. Kourilsky, Hôpital Saint-Antoine) discussed allergy to *Candida albicans*; mycostatin is seldom useful, as frequently it cannot reach the foci of infection. Desensitization is long and difficult but gives better results.

1556. De Fooz (G.). **Premières statistiques du Laboratoire de Mycologie.** [First statistics from the Laboratory of Mycology.]—*Arch. belges Derm.*, **15**, 1, pp. 30–35, 1959. [Flem., Engl. summ.]

During the past year the following spp. were isolated from 139 cases of dermatomycosis at the Clinique dermatologique, Univ. Liège: *Candida albicans* in 32 (23%) and dermatophytes (represented by *Trichophyton mentagrophytes* in 43, *T. rubrum* in 28, and *Epidermophyton floccosum* in 14) in 107 (77%).

1557. Emmons (C. W.). **Fungus nuclei in the diagnosis of mycoses.**—*Mycologia*, **51**, 2, pp. 227–236, 20 fig., 1959.

After pointing out that the morphologic integrity of the fungus nucleus is lost in histological preparations unless all stages of fixation, dehydration, infiltration, and staining are done with care, the author advocates fixation with modified Bouin's fixative, dehydration, infiltration by slow and graded steps, and staining with Heidenhain's iron-alum haematoxylin for demonstrating small nuclei in the tissue phases with a minimum of distortion and shrinkage.

It was found that *Coccidioides immitis*, *Blastomyces dermatitidis*, and *Paracoccidioides brasiliensis* are multinucleate, while *Histoplasma capsulatum* and *Cryptococcus neoformans* are uninucleate, the nuclei consisting of a delicate nuclear membrane, a vacuolated nucleoplasm, and a densely stained single nucleus.

1558. Pereiro Miguens (M.). **Estudio comparativo de los métodos de conservación de cultivos de hongos.** [Comparative study of the methods used for the

maintenance of cultures of fungi.]—*Act. dermo-sifiliogr., Madrid*, **50**, 5, pp. 347–351, 1959.

At the Facultad de Medicina, Santiago de Compostela, Spain, several techniques for the maintenance of dermatophytes were tested. To avoid pleomorphic change was the main purpose of the author, who recommends, as did Negroni (*Morfología y biología de los hongos. Técnica micológica*, 1938), the drying of the cultures in vacuum with phosphoric acid. A small tube of mycelium is placed within a larger tube which is exhausted and sealed.

1559. Noval (J. J.) & Nickerson (W. J.). **Decomposition of native keratin by Streptomyces fradiae.**—*J. Bact.*, **77**, 3, pp. 251–263, 1 graph, 1 fig., 1959.

At the Inst. of Microbiol., Rutgers, New Brunswick, N.J., a str. of *S. fradiae*, from soil, rapidly and completely digested native keratin in the form of wool which had been cleaned by mild treatments and then sterilized by exposure to gaseous ethylene oxide. [See also J. J. Noval, *Diss. Abstr.*, **19**, pp. 219–220, 1958.]

1560. Schirren (C.), Rieth (H.), & Koch (H.). **Tierexperimentelle Untersuchungen zur Pathogenität von Hefepilzen.** [Animal-experimental studies on the pathogenicity of yeast fungi.]—*Arch. klin. exp. Derm.*, **210**, 1, pp. 86–122, 3 fig., 1 diag., 1960.

The recent increase not only in the incidence but also in the severity of diseases caused by yeasts prompted the investigations herein reported and discussed in relation to a 6-pp. bibliography from the Universitäts-Hautklinik, Hamburg-Eppendorf, Germany, where experiments were performed with 21 spp., comprising *Candida albicans* and 11 other *C.* spp., *Cryptococcus neoformans*, 3 *Torulopsis* spp., and 1 sp. each of *Rhodotorula*, *Trichosporon*, *Saccharomyces*, *Pichia*, and *Debaryomyces* on 1,647 hen embryos, 450 mice, 160 guinea-pigs, and 63 rabbits.

The results are presented in 16 tables. Chick embryos proved to be far more susceptible than the animals, rabbits in particular being affected only by massive inoculation (15,000,000 cells) with *Candida albicans*. Intravenous injections of the same sp. and *C. tropicalis* were highly pathogenic to mice, which were also susceptible to *Cryptococcus neoformans*. A small *Candida albicans* inoculum (1,500 cells) into hen embryos did not prevent hatching, but a number of the chickens harboured congenital infection of certain internal organs to which some succumbed while others recovered spontaneously.

1561. Gustafson (B. A.). **The occurrence of yeasts belonging to genus Pityrosporum in different kinds of animals.**—*Acta path. microbiol. scand.*, **48**, 1, pp. 51–55, 1960.

The results of an examination at Kronobergs Läns Slakteriförening, Alvesta, Sweden, of samples from the outer auditory canal of 30 pigs, 50 cows, 25 horses, 16 sheep, 3 roes, and 13 elks, and skin scrapings of 10 elks are reported. Direct microscopic inspection revealed *P.* spp. in ear specimens from 29 pigs, 24 cows, 11 horses, and 2 roes and in the skin of 1 elk, while the fungi developed in primary cultures from the ears of 10 pigs, 8 cows, and 4 horses, and the skin of 1 elk. Of the isolates, 9 from pigs and those from cows and horses were referred to *P. ovale* and 2 from pigs as *P. canis*. The elk isolate was not definitely identified but is most similar to *P. ovale*.

1562. Shifrine (M.) & Phaff (H. J.). **On the isolation, ecology and taxonomy of Saccharomycopsis guttulata.**—*Antonie van Leeuwenhoek*, **24**, 3–4, pp. 193–209, 7 fig., 1958 [23 ref.]; **On the cell wall composition of Saccharomycopsis guttulata.**—*Ibid.*, **24**, 3–4, pp. 274–280, 1 graph, 1958; **Nutritional requirements**

of Saccharomycopsis guttulata (Robin) Schiönning.—*Mycologia*, **51**, 3, pp. 318–328, 1 graph, 1959.

These papers from the Dept of Food Technology, Univ. Calif., Davis, comprise a comprehensive study of *S. guttulata*, a yeast known for more than a century from the intestinal tract of rabbits and certain other herbivores [cf. **3**, No. 177].

1563. Littman (M. L.). **The systemic mycoses.**—*Amer. J. Med.*, **27**, 1, pp. 1–3, 1959.

In this editorial it is stated that, despite improvements in diagnostic procedures, the recognition of systemic mycoses is governed more by the availability of skilled laboratory personnel than by any other factor. Diagnostic methods have progressed to a point where the majority of pathogenic fungi can be isolated directly from a patient's exudates in 3–6 days. With the discovery of amphotericin B, and its use intravenously, treatment of systemic diseases has been greatly improved. This fungicide is effective for disseminated mycoses such as North American blastomycosis, South American blastomycosis, histoplasmosis, coccidioidomycosis, cryptococcosis, and moniliasis. Its clinical effectiveness is limited by the rapidity with which susceptible fungi become resistant to it.

1564. Harrell (E. R.) & Bocobo (F. C.). **Modern treatment of the systemic fungus diseases.**—*Clin. Pharmacol. Therapeutics*, **1**, 1, pp. 104–134, 1960. [270 ref.]

A review of present-day knowledge of the newer antimycotics, with special reference to amphotericin B.

1565. Beard (H. W.), Richert (J. H.), & Taylor (R. R.). **The treatment of deep mycotic infections with amphotericin B. With particular emphasis on drug toxicity.**—*Amer. Rev. Respir. Dis.*, **81**, 1, pp. 43–51, 5 graphs, 1960. [Span., Fr. summ. 20 ref.]

At Fitzsimons Army Hosp., Denver, Colorado, 7 cases of chronic pulmonary infection by *Coccidioides immitis* and 1 each of *Blastomyces dermatitidis* (disseminated) and *Histoplasma capsulatum* (chronic pulmonary) were treated by intravenous injection of daily dosages of approx. 1 mg./kg. body weight for 4 to 6 weeks. Definite clinical improvement was attained in 4 of the cases of coccidioidomycosis and in the 1 of blastomycosis but that of histoplasmosis did not respond.

Details are given of the toxic side effects experienced during the course of therapy, including albuminuria, cylindruria, and a significant elevation of blood urea N. However, all the renal abnormalities disappeared after the completion of therapy.

1566. Osswald (H.) & Seeliger (H. P. R.). **Tierexperimentelle Untersuchungen mit antimykotischen Mitteln. 2. Mitteilung. Vergleichende Untersuchungen zur Wirksamkeit der peroralen und subkutanen Applikation vom Amphotericin B am Versuchsmodell der mit Candida albicans, Cryptococcus neoformans, Mucor pusillus oder Aspergillus fumigatus infizierten Maus.** [Investigations with antimycotics in experimental animals. Part 2. Comparative investigations on the effectiveness of oral and subcutaneous applications of amphotericin B to Mice infected with *C. albicans*, *C. neoformans*, *M. pusillus*, or *A. fumigatus*.]—*Z. Immun.-Forsch.*, **119**, pp. 161–174, 1960. [Engl., Fr., Sp., Russ. summ.]

In Part I (*Arzneimittel-Forschung*, **8**, p. 370, 1958) the authors established that amphotericin B delayed death when administered subcutaneously to mice infected with *C. albicans* and *M. pusillus*, and that its effect was longer lasting than that of mycostatin: a residuum of amphotericin B was still present at the site of injection after 1 month.

In the present report, from the Pharmacologischen Institut, Bonn Univ., it is stated that oral dosage with amphotericin B was superior to equal subcutaneous dosage in lowering the death rate in mice (females of the Copenhagen GN strain) infected with the 4 fungi specified.

1567. Goettsch (R. W.) & Wiese (G. A.). **The synthesis of some substituted thianaphthene-2-carboxamides and their antifungal properties.**—*J. Amer. pharm. Ass.*, Sci. Ed., **37**, 5, pp. 319–322, 1958.

At the Coll. of Pharmacy, Univ. Iowa, Iowa City, using a modification of Shirley and Cameron's method for synthesis of thianaphthene-2-carboxylic acid by metalation of thianaphthene with n-butyllithium to form 2-thianaphthenyllithium (*J. Amer. chem. Soc.*, **72**, 2788, 1950], the authors prepared the same compound, thianaphthene-2-carboxamide, and 19 substituted forms of the latter. The *in vitro* activity of the chemicals was tested against *Trichophyton rubrum* in comparison with 3 standard fungicides, viz. undecylenic acid, salicylanilide, and 5-chloro-8-hydroxquinoline, and those which appeared to equal or surpass the 1st-named in this respect were used in further trials with *Microsporum gypseum*, *M. canis*, and *T. mentagrophytes*. The most powerful effects on all 4 spp. were exerted by N-(2-methylpipenidyl-)-thianaphthene-2-carboxamide, N-cyclohexylthianaphthene-2-carboxamide, and N-morpholinylthianaphthene-2-carboxamide.

1568. Salvin (S. B.). **Current concepts of diagnostic serology and skin hypersensitivity in the mycoses.**—*Amer. J. Med.*, **27**, 1, pp. 97–114, 1959. [147 ref.]

The author reviews the usefulness of immunological tests in the diagnosis of systemic mycoses. In histoplasmosis (*Histoplasma capsulatum*) agglutination with latex-histoplasmin, precipitation with yeast-phase filtrate or histoplasmin, complement fixation with whole cells of the yeast-phase and histoplasmin, and the skin test with histoplasmin, are all of use. In cryptococcosis (*Cryptococcus neoformans*) and actinomycosis (*Actinomyces bovis* [*A. israelii*]) all 4 procedures have been reported, but are as yet insufficiently advanced for use in routine diagnosis of the diseases in man.

In coccidioidomycosis (*Coccidioides immitis*) the precipitation and complement fixation reactions, and the skin test, all with coccidioidin, are of diagnostic value. In candidiasis (*Candida albicans*) the agglutination test with cells of the yeast phase, and the skin test with oidiomycin are of value, while the precipitation and complement fixation tests for circulating antibody are not yet sufficiently advanced. In N. American blastomycosis (*Blastomyces dermatitidis*) the complement fixation test with whole cells of the yeast phase, and the skin test with blastomycin, are of value, while the precipitation test is insufficiently advanced.

1569. Drouhet (E.) & Segretain (G.). **Les phénomènes d'immunité dans les mycoses.** [Immunity phenomena in mycoses.] Seeliger (H. P. R.). **Les phénomènes d'immunité dans les cryptococcoses.** [Immunity phenomena in cryptococcoses.]—*Path. Biol.*, **8**, 3-4, pp. 289–296; 297–306, 2 fig., 1960. [Engl., Span., Germ. summ.; 39 and 37 ref.]

In the 1st paper, which deals with immunological factors peculiar to mycoses, the mechanism of resistance to mycotic infection (non-specific and specific factors), and the value of immunological reactions for the diagnosis of mycoses, the authors state that pathogenic fungi are less antigenic than bacteria or viruses. Recent progress in the preparation of antigens should enable the sensitivity and specificity of antigen-antibody reaction tests to be increased, the tests thus being made more useful for diagnostic purposes.

In the 2nd paper evidence is adduced that partial communities of the somatic and capsular antigens link the pathogenic species of *Cryptococcus neoformans* to its

non-pathogenic relatives. The capsular antigens are probably responsible for the frequent absence of immunological response in the patients. This is indicated by inhibition of the phagocytosis and the setting up of an 'immunological paralysis'. Among newer methods, Neill's test [cf. **1**, 1633, 1871, 2255] and immunofluorescence are of value in the sero-diagnosis of cryptococcosis.

1570. Knight (R. A.), Coray (S.), & Marcus (S.). **Histoplasma capsulatum and Blastomyces dermatitidis polysaccharide skin tests on Humans.**—*Amer. Rev. Respir. Dis.*, **80**, 2, pp. 264–266, 1959.

At the Veterans Administration Hosp., Salt Lake City, Utah, skin tests were made on 134 persons with histoplasmin, blastomycin, and polysaccharides derived from broth in which the yeast phases of *H. capsulatum* and *B. dermatitidis* were grown. The histoplasmin and the *H. capsulatum* polysaccharide were equally sensitive, eliciting 20 (15·7%) positive responses. The *B. dermatitidis* polysaccharide induced positive reactions in subjects exhibiting a concomitant histoplasmin sensitivity, but the relative specificity of the 2 types of response could not be determined.

1571. Krasil'nikov (N. A.). **Taxonomic principles in the Actinomycetes.**—*J. Bact.*, **79**, 1, pp. 65–74, 1960.

This paper is a general discussion ranging over a number of criteria including morphology, pigmentation, assimilation of C and N, phage specificity, and the production of specific antibiotics. The last-mentioned has received particular attention. In one experiment described actinomycete spp. from several groups were cultured and numerous morphological and physiological variants obtained: in no case did the antibiotic produced by the variant differ from that produced by the parent str.

1572. Krasil'nikov (N. A.). **Rules for the classification of antibiotic-producing Actinomycetes.**—*J. Bact.*, **79**, 1, pp. 75–80, 1960.

Stressing the need to avoid the confusion which arises because of insufficient attention to nomenclature, the author proposes that descriptions of new cultures of antibiotic-producing actinomycetes should always include data relating to (1) the habitat from which the isolation was made, (2) the mode of sampling and the storage conditions, (3) the bacteriological and mycological findings on initial culture of the soil samples on synthetic Czapek, starch-ammonium, and meat peptone agar media, (4) their biological (antagonistic) properties when grown under strictly defined conditions, (5) the conditions under which they were cultured, with accurate information on anaerobiosis in the case of anaerobes, (6) the antimicrobial spectrum, to include information on the relationships with a standard series of bacteria, mycobacteria, yeasts, fungi, and phages, (7) the conditions for antibiotic production, which must conform to definite standards, and (8) strictly specified information as to morphology, pigmentation and other characteristics in culture, physiology and biochemistry, and specific antagonistic properties.

Before proposing a new sp., comparison should always be made not only with standard cultures, but also with the original descriptions of such cultures, which often undergo change in the course of time.

1573. Lesney (T. A.) & Traeger (K. A.). **Cervico-facial actinomycosis : a post-extraction complication.**—*J. oral Surg.*, **17**, 1, pp. 51–59, 1959.

Two cases of actinomycosis in sailors on sea duty are reported. Each patient had a dental extraction involving the lower teeth before the onset of actinomycosis. Diagnosis was made by microscopical examination and by culture. Treatment consisted of incision and drainage where indicated, and administration of antibiotics. The most effective medication appeared to be prolonged administration of isoniazid. Both patients recovered completely.

1574. Bojalil (L. F.) & Cerbon (J.). **Schema for the differentiation of Nocardia asteroides and Nocardia brasiliensis.**—*J. Bact.*, **78**, 6, pp. 852–857, 1 fig., 1 graph, 1959. [10 ref.]

At Escuela de Medicina, UNAM, Hosp. General, Mexico City, observations were made on the type of growth, substrate utilization, amino-acid formation, and pH changes, when 30 strs. of *N. asteroides*, 22 of *N. brasiliensis*, and 16 of other *N.* spp. were grown on pure gelatine (0·4% in distilled water, at pH 7) [cf. **3**, No. 478]. The results suggested that the genus is composed of 2 metabolic groups. In the 1st, exemplified by *N. brasiliensis*, the colonies are round and strongly adherent to the test tubes; gelatine can be used as a sole source of C and N, and is broken down to amino acids, the medium becoming alkaline. In the 2nd, comprising *N. asteroides* and most of the other spp. studied, a poor, thin, flaky, easily dispersed growth is made on this medium.

1575. Cupp (C. M.), Edwards (W. M.), & Cleve (E. A.). **Nocardiosis of the central nervous system : report of two fatal cases.**—*Ann. intern. Med.*, **52**, 1, pp. 223–229, 2 fig., 1960. [Interlingua summ. 12 ref.]

A report from the Letterman Army Hosp., Dept Med., San Francisco, Calif., of 2 cases of nocardiosis (*Nocardia asteroides* and *N. asteroides* var. *gypsoides*, respectively). In one the gastro-intestinal tract was the portal of entry, and in the other the lungs. Treatment with sulphadiazine and antibiotics was unsuccessful. Multiple brain abscesses were discovered at post-mortem.

1576. Langham (R. F.), Schirmer (R. G.), & Newman (J. P.). **Nocardiosis in the Dog and Cat.**—*Mich. St. Univ. Vet.*, **19**, 2, pp. 102–107, & 119, 5 fig., 1959. [*V.B.*, **29**, p. 552.]

At Michigan State Univ. *Nocardia asteroides* was isolated from 4 dogs and 1 cat and a further case was diagnosed by histological methods. Grossly, the lesions consisted of reddish masses of tissue covering all the pleurae and organs in the thoracic cavity; in the skin and subcutaneous tissues, the lesions developed as abscesses. Microscopically, the reddish masses consisted of a vascular granulation tissue containing a granulomatous nodule with *N. asteroides* colonies. The subcutaneous lesions consisted of areas of suppuration surrounded by lymphocytes, macrophages, and granulation tissue.

1577. Borelli (D.). **Clasificación clínico-etiológica de los micetomas.** [Clinical and etiological classification of the mycetomas.]—*Arch. venez. Pat. trop.*, **3**, 1, pp. 159–169, 1 diag., 1959. [Engl. summ. 11 ref.]

Brief review of earlier classifications and remarks on the practical significance of the etiological classification [cf. **3**, No. 523].

1578. Baylet (J.), Camain (R.), & Segretain (G.). **Identification des agents des maduromycoses du Sénégal et de la Mauritanie. Description d'une espèce nouvelle.** [Identification of the agents of maduromycoses of Senegal and Mauritania. Description of a new sp.]—*Bull. Soc. Path. exot.*, **52**, 4, pp. 448–477, 18 fig., 1959. [27 ref.]

This is an exhaustive study of the histopathological, macroscopic, and microscopic aspects of fungi implicated in the etiology of 39 mycetomas examined at the Laboratoire de Biologie des Forces Terrestres, Dakar, since Jan. 1957, which included *Madurella mycetomi* (in 13 cases) a new sp. *Leptosphaeria senegalensis* (8), *Curvularia lunata* (1), *Streptomyces madurae* (3), *S. pelletieri* (6), *S. somaliensis* (3), and (?) *Nocardia asteroides* (1).

L. senegalensis is characterized by roughly circular or oval grains, 700–900 μ

diam., with a densely pigmented black band, 30–60 μ wide, with fringed edges, in the peripheral zone. They contain numerous vesicles, av. diam. 15–25 μ, rarely up to 40 μ, which may enclose spherules 3–4 μ diam. The hyphae are invariably septate and may be either slender (av. diam. 2 μ), flexuous, and moniliform, or 3–5 μ, rigid, and resembling a bamboo cane. They eventually develop swellings, 6–8 μ diam., and may terminate in a banana-shaped vesicle. In 4 of the cases caused by this sp. the interior of the grains contained masses of haemalum-eosin and Gram+ cocci, max. diam. 1–1·5 μ, which were found exclusively in association with *L. senegalensis* and are therefore postulated to be etiologically connected with it.

The Hotchkiss–McManus technique and Ag impregnation proved valuable in the structural definition of the fungal elements, especially the transverse septa of the hyphae.

1579. Latapí (F.). **Micetoma. Análisis de 100 casos estudiados en la ciudad de México.** [Mycetoma. Analysis of 100 cases studied in Mexico City.]—*III Cong. ibero-lat.-amer. Derm.* (*Méx.*), pp. 203–213, 17 fig., 1959. [21 ref. *T.D.B.*, **57**, p. 292.]

Only cases due to *Nocardia brasiliensis* were studied. Most of the patients came from tropical parts of the states of Michoacan, Guerrero, Veracruz, and Morelos; 81 were males, 75% were aged 20–50 yr. The course of the disease was slow. Of 33 patients treated with diamino-diphenyl-sulphone 15 are considered clinically cured, 10 improved, 6 abandoned the treatment, and in 2 cases the treatment failed [**2**, 669; **3**, 960]. Of 7 patients treated with isoniazide 2 were cured and clinical cure is also claimed for a case treated with streptomycin [**3**, 523]. In 13 patients amputation was carried out and in another 13 cases amputation was suggested but refused.

1580. Nicolau (St.-G.), Avram (A.), Dobrovici (N.), & Hatmanu (D.). **Aspects clinico-radiologiques des mycétomes du pied.** [Clinical and radiological aspects of mycetomas of the foot.]—*Presse méd.*, **67**, 50, pp. 1863–1866, 1959.

This well-illustrated article describes 3 cases seen at the Dermato-Venerological Centre, Bucharest, Romania, and caused by *Geotrichum candidum*, *Nocardia* [*Streptomyces*] *madurae*, and *Madurella polymorpha*, respectively. The bones were involved in all 3 cases, but this was always secondary to infection of the fleshy tissue from which it spread to the bone. If the spread was direct the bone lesion began in the cortico-periostic zone; if through the blood supply the lesions took the form of a disseminated osteolysis of the phalanges, the metatarses, and the back of the tarsus. The case attributed to *G. candidum* resolved completely with treatment with the hydrazide of isonicotinic acid, and that attributed to *S. madurae* was improving with the same treatment. The 3rd case resisted treatment.

Mention is made of a further 4 cases without bone involvement seen at the same clinic and caused by *S. madurae* (2 cases), *Mortierella mycetomae*, and *Madurella mycetomi*.

1581. Catanei (A.). **Sur trois champignons agents de teignes humaines au Sahara.** [Concerning three fungi causing human ringworm in the Sahara.]—*Arch. Inst. Pasteur Algér.*, **37**, 1, pp. 55–60, 1959. [12 ref. *B.H.*, **34**, p. 1115.]

Brief notes are given on *Trichophyton soudanense*, *T. pervesi*, and *T. langeronii*, the last isolated from a kerion on a Mussulman boy who had been in contact with a goat infected by the same species.

1582. Deblock (S.), Andrieu (S.), & Chenal (C.). **Première contribution à la connaissance des teignes infantiles de la Côte d'Ivoire (Afrique).** [First

contribution to the knowledge of the juvenile tinea of the Ivory Coast (Africa).]—*Bull. Soc. Path. exot.*, **52**, 3, pp. 256–259, 1959.

The following spp. were isolated from 82 of 112 samples of hair from 6–10-yr.-old native schoolchildren: *Trichophyton soudanense* (19), *T. gourvilii* (3), *Microsporum audouinii* (37), and mixtures of *T. soudanense* and *M. audouinii* (2), and *T. gourvili* and *M. audouinii* (1) [cf. below].

1583. Andrieu (S.), Capron (A.), & Sultan (G.). **Contribution à la connaissance des teignes de la République de Guinée. Remarquable fréquence des teignes associées (microspories et trichophyties).** [Contribution to the knowledge of tineas of the Republic of Guinea. Remarkable frequency of associated tineas (microsporoses and trichophytoses).]—*Bull. Soc. Path. exot.*, **52**, 3, pp. 259–263, 1959.

Cultures from 80 samples of hair from 6–14-yr.-old native schoolchildren yielded *Microsporum audouinii* (30), *Trichophyton soudanense* (48), *T. tonsurans* (2), and mixtures of *T. soudanense* and *M. audouinii* (13), *T. tonsurans* and *M. audouinii* (1), and *T. tonsurans* and *T. soudanense* (1).

1584. Biguet (J.), Ziegler (P.), Cochet (G.), & Duc (G.). **Première contribution à la connaissance des teignes de la République de Tchad (à partir de l'examen des 1,000 premiers prélèvements du District de Koumra).** [First contribution to a knowledge of the tineas of the Republic of Chad (from an examination of the 1st 1,000 samples in the District of Koumra).]—*Bull. Soc. Path. exot.*, **52**, 3, pp. 352–357, 1959.

The 606 positive samples of hair included 589 showing trichophytoses and 14 microsporoses. In all, 410 isolates of *Trichophyton soudanense*, 19 of *T. gourvilii*, 9 of *T. violaceum*, 15 of *Microsporum audouinii*, and 2 of *Ctenomyces* [*T.*] *mentagrophytes* were made.

1585. Biguet (J.), Deblock (S.), Cochet (G.), & Ouadraogo (P.). **Première contribution à l'étude des teignes en Haute Volta. Revue des dermatophyties et des dermatophytes en Afrique noire.** [A 1st contribution to the study of ringworm infections in Upper Volta. A review of dermatophytoses and dermatophytes in Negro Africa.]—*Ann. Parasit. hum. comp.*, **34**, 5–6, pp. 694–727, 2 maps, 1959. [55 ref.]

Based on a study of 171 isolations made in 1956–7 from the scalps of negro children suffering from ringworm in Upper Volta (French W. Africa), a full critical review is presented of the disease and its causal agents in Africa south of the desert bounded by the parallel of latitude running through St. Louis, Senegal, but excluding Eritrea, the Somalilands, and Ethiopia. In all, 148 cases due to *Trichophyton* spp. (86·54% of the total), 21 to *Microsporum* spp. (12·8%), and 2 mixed infections were found, but no favus. The isolates included 64 of *T. gourvilii*, 23 of *T. soudanense*, 2 of *T. rubrum*, 1 of *T. tonsurans*, 4 of *T.* [*M.*] *ferrugineum*, and 15 of *M. audouinii*.

The authors' review of the lit. revealed wide gaps in the documentation. The rarity of favus in most native regions was confirmed. The geographical distribution of the most important dermatophytes reported from the area is given and the difficulties of diagnosing African spp. of *M.* are discussed.

1586. Findlay (G. H.). **Ringworm (tinea) infection in the Transvaal.**—*Med. Proc., Johannesburg*, **5**, 20, pp. 429–433, 1 graph, 1959. [Afrikaans summ.]

A report from Dept Med., Univ. Pretoria, on 125 cases among white patients observed during 1955–58, giving particulars of the age and sex incidence, identity of the common fungi responsible, and the epidemiological, clinical, and therapeutic findings.

1587. Rizzi (V.) & Magliari (G.). **Le tigne nella Provinzia di Lecce. Attività del Centro contro le Tigne dell' Ospedale Civile 'V. Fazzi' nel quadriennio 1° Luglio 1954–30 Giugno 1958.** [Tinea in the Province of Lecce. Work of the Centre for the control of tinea of the Civil Hospital 'V. Fazzi' during the 4-yr. period 1st July 1954–30 June 1958.]—*Ann. Sanità pubbl.*, **20**, 5, pp. 1006–1018, 1959. [Fr., Engl., Span., Germ. summ.]

The data relating to 4,128 visits to the clinic by a total of 703 patients (364 male and 339 female) are analysed, with observations on etiology, medical aspects, and prophylactic and therapeutic methods. There were 48 cases of favus, all caused by *Achorion* [*Trichophyton*] *schoenleinii* and 655 of infection by *Trichophyton* spp., mostly *T. violaceum* and *T. acuminatum* [*T. sabouraudii*]. The prospects for the eradication of the 5 main foci of infection in the Province are considered to be hopeful.

1588. Vilanova (X.), Casanovas (M.), & Lecha (E.). **Resumen estadístico de las micosis superficiales observadas en la Clínica Dermatológica Universitaria de Barcelona entre los años 1947–1957.** [Statistical résumé of the superficial mycoses observed at the Dermatologic Clinic of the University of Barcelona during 1947–57.]—*Act. dermo-sifiliogr.* (*Madr.*), **50**, 5, pp. 321–337, 1959.

Four cases of erythrasma [*Nocardia minutissima*], 102 cases of tinea versicolor [*Malassezia furfur*] and 772 cases of infections by dermatophytes were studied. Tinea capitis due to *Trichophyton* spp. (chiefly *T. violaceum*) predominated. Favus was rather frequent, 6·6% of the cases of tinea. Large-spored tinea was rare. The most frequent cause of tinea corporis was *T. mentagrophytes*.

1589. Pereiro Miguens (M.). **Estudio estadístico de las micosis en Galicia.** [Statistical study of the mycoses in the Province of Galicia.]—*Act. dermo-sifiliogr., Madrid*, **50**, 4, pp. 273–275, 1959.

This paper tabulates 820 cases of superficial fungal infection observed in Galicia, Spain, during 1951–59 according to the types of mycoses and the dermatophytes involved. *Microsporum canis*, the most frequent cause of tinea capitis (58·9%), was followed by *Trichophyton schoenleinii* (19·8%). The last was more frequent in 1951–54 (27%) than in 1955–58 (12·6%).

1590. Feilchenfeld (E.). **Erfahrungen bei Behandlung und nachgehender Fürsorge bei Tinea capitis in 30 Jahren.** [Observations on treatment and after-care of tinea capitis during 30 years.]—*Derm. Wschr.*, **139**, 1, pp. 14–20, 1959.

A review of the author's experiences in private and public practice at Tel Aviv, Israel.

1591. Salamon (T.). **Le problème du soi-disant leucoderme favique.** [The problem of the so-called favic leucodermia.]—*Arch. belges Derm.*, **15**, 4, pp. 442–450, 3 fig., 1959. [Flem., Engl. summ.]

In 5 cases of tinea capitis among children aged 7–12 observed at the Hôpital des Affections Mycosiques, Banja Luka, Yugoslavia between Dec. 1955 and Sept. 1956, white spots developed on the arms and body similar to those associated with pityriasis versicolor alba [*Malassezia furfur*]. The agent in 1 was *Trichophyton violaceum* and in 4 *Achorion* [*T.*] *schoenleinii*.

1592. Wellens (W.) & Fivet (H.). **Considérations sur le diagnostic et le traitement des teignes microsporiques causées par Sabouraudites canis et Sabouraudites audouini.** [Considerations on the diagnosis and treatment of microsporous tinea caused by *Microsporum canis* and *M. audouinii*.]—*Arch. belges Derm.*, **15**, 3, pp. 301–310, 1959. [Flem., Engl. summ. 27 ref.]

M. audouinii and *M. canis* were the agents in 9 and 8, respectively, of the 17 cases

(av. age 6½ yr.) herein reported from the Clinique Dermatologique, Univ. Louvain. The classic rules for clinical diagnosis were not found to be uniformly reliable, both spp. being capable of inducing lesions of the glabrous skin and suppurative folliculitis. Simple local treatment sufficed for the cure in less than 3 months of the *M. canis* cases and 4 of the *M. audouinii*, but another case of the former and 4 of the latter were much more refractory and required epilation by radiotherapy or thallium acetate.

1593. Ito (K.) & Kashima (R.). **Granulomatous feature of dermatomycose.**—*Bull. pharm. Res. Inst., Osaka*, 24, pp. 16–25, 11 fig., 1960.

The cases described include 1 of a fungal granulomatous nodule accompanying erythema nodosum trichophyticum caused by *Tr[ichophyton] interdigitale*, and 3 atypical cases of nodular infiltrate with vascular disorder, seen in tinea cruris chronicum caused by *T. purp[ureum]* [*T. rubrum*] in 2 cases and by *T. gypseum* [*T. mentagrophytes*] in the 3rd. Histopathological features are described, and comparisons made with the findings in granulomas and 'id' vasculitis reactions from other causes [cf. **3**, No. 1289].

1594. Jackson (R.). **Fungous granuloma of the lower leg due to Trichophyton mentagrophytes.**—*Canad. med. Ass. J.*, **82**, 13, pp. 679–680, 2 fig., 1960.

A most unusual feature of this case in a 36-yr.-old female patient at the Ottawa Civic Hosp. was the lack of involvement of the toes or feet.

1595. *a.* Arnold (H. L.). **Griseofulvin for ringworm: preliminary appraisal—report of 22 more cases.**—*Straub. Clin. Proc.*, **25**, 5, pp. 108–113, 1959. [Cf. **3**, No. 1282.]

b. Belisario (J. C.) & Havyatt (M. T.). **A case of tinea imbricata in a white Boy treated with griseofulvin.**—*Dermatologica, Basel*, **119**, 3, pp. 158–164, 8 fig., 1959. [Fr., Germ. summ.] [*Trichophyton concentricum*; New S. Wales.]

c. Blank (H.), Smith (J. G.), Roth (F. J.), & Zaias (N.). **Griseofulvin for the systemic treatment of dermatomycoses.**—*J. Amer. med. Ass.*, **171**, 16, pp. 2168–2173, 7 fig., 1959. [16 ref.] [200 cases; Univ. Miami Sch. Med.]

d. Ferguson (A. G.), Logan (J. C. P.), & Derblay (P. R.).—*Brit. med. J.*, **1**, 5178, pp. 1026–1027, 4 fig., 1960. [2 cases *Trichophyton schoenleinii*; Glasgow.]

e. Goldman (L.), Schwarz (J.), Preston (R. H.), Beyer (Amanda), & Loutzenhizer (J.). **Current status of griseofulvin. Report on one hundred and seventy-five cases.**—*J. Amer. med. Ass.*, **172**, 6, pp. 532–538, 5 fig., 1960. [18 ref.] [Univ. Cincinnatti.]

f. Harvey (G.), Alexander (J. O'D.), & Kirk (J. F.). **Griseofulvin in fungous infections.**—*Scot. med. J.*, **5**, 2, pp. 51–56, 1 col. pl., 1960. [51 cases; Royal Infirmary, Glasgow.]

g. McCuistion (C. H.), Lawlis (Marjorie G.), & Gonzalez (B. B.). **Toxicological studies and effectiveness of griseofulvin in dermatomycosis.**—*J. Amer. med. Ass.*, **171**, 16, pp. 2174–2180, 4 fig., 1959. [32 cases; Baylor Univ. Postgraduate Sch. Med.]

h. Pettker (K.) & Rieth (H.). **Mikrosporie—Behandlung mit Griseofulvin bei einer Heimendemie durch Microsporum audouini.** [Treatment of microsporosis with griseofulvin in a home epidemic caused by *M. audouinii*.]—*Z. Haut- u.*

Geschlechtskr, **28**, 6, pp. 177–184, 9 fig. (5 col.), 1960. [12 cases; Verden/Aller district, Germany.]

Reports of the successful clinical use of griseofulvin against dermatophyte infections of man [cf. **3**, Nos. 1425–1437].

1596. Kaplan (W.) & Ajello (L.). **Oral treatment of spontaneous ringworm in Cats with griseofulvin.**—*J. Amer. vet. med. Ass.*, **135**, pp. 253–261, 1959. [*V.B.*, **30**, p. 64.]

At the Communicable Disease Center, Chamblee, Ga, 22 cats with *Microsporum canis* infection were treated with griseofulvin. Of 18 with lesions 10 were clinically normal after 3 weeks, 6 after 4 weeks, and 2 after 5; 8 were rendered culturally negative by the sole use of griseofulvin. Side effects were negligible.

1597. Demis (D. J.), Davis (M. J.), & Campbell (Janis C.). **The affects of griseofulvin on epithelial cells in tissue culture.**—*J. invest. Derm.*, **34**, 2, pp. 99–101, 1960.

Following a report [**3**, No. 773] that large doses of griseofulvin may inhibit mitosis in tissues of high mitotic activity, this antibiotic was compared with nystatin in regard to its effect on epithelial tissue cultures (HeLa, KB, conjunctiva, and skin) maintained at the Dept Dermatology, Walter Reed Army Inst. Res., Washington. Both were moderately toxic, but only at dosages far in excess of those used clinically.

Epithelial cultures were exposed to 5 μg. griseofulvin/ml. for several months without developing cellular abnormalities, and it may prove possible to use the antibiotic as a standard additive to check saprophytic fungi in these cultures.

1598. Demis (D. J.) & Walton (M. D.). **Tritium-labeling of griseofulvin.** *J. invest. Derm.*, **34**, 3, pp. 181–182, 1960.

In preliminary attempts at Dept Dermatology, Walter Reed Army Inst. Res., WRAMC, Washington, to label griseofulvin with tritium, the fungicide was exposed to the gas in accordance with the Wilzbach procedure (*J. Amer. chem. Soc.*, **79**, p. 1013, 1957). Only 3% of the labelled material obtained was griseofulvin, the rest being other compounds presumably formed during the exposure to the gas. Such tritium as was taken up by the griseofulvin was probably incorporated by addition to the double bond of the cyclo-hexenone ring, rather than by exchange for hydrogen.

1599. **The griseofulvin story**—Film No. 5 on Research at Glaxo; col., sound commentary, 16 mm., 21 min. (Glaxo Laboratories Ltd., Greenford, Middx.), Apr. 1960.

An account of the discovery and development of griseofulvin, for showing to medical and scientific audiences.

1600. Avram (A.). **Étude clinique et mycologique d'un cas de kérion de Celse d'origine tellurique par Microsporum gypseum.** [Clinical and mycological study of a case of kerion Celsi caused by *M. gypseum* originating in the soil.]—*Arch. belges Derm.*, **15**, 4, pp. 432–441, 5 fig., 1959. [Flem., Engl. summ. 18 ref.]

The *M. gypseum* str. isolated from the scalp of a 5-yr.-old boy at the Centre Dermato-Vénéréologique, Bucharest, Romania, proved to be identical with those from samples of soil [cf. **3**, No. 1454] from the patient's garden and an adjoining public one which he frequented. Inoculation experiments on a man and a guinea-pig were successful and the fungus was reisolated from the resultant lesions.

1601. Griffin (D. M.). **Perfect stage of Microsporum gypseum.**—*Nature, Lond.*, **186**, 4718, pp. 94–95, 1960.

At Sch. Agric., Univ. Sydney, cleistothecia typical of the Gymnoascaceae were found associated with *M. gypseum* growing on hair on the surface of moist soil. Macroconidia of *M. gypseum* were borne directly on the characteristic peridial hyphae of the cleistothecia, and both these conidia and the ascospores, when cultured on hair on soil, gave rise to colonies producing both the sexual and the asexual states.

The fungus is regarded as conspecific with *Gymnoascus gypseum*, reported by Nannizzi (*Atti R. Accad. Fisiocritici Siena*, **10**, 2, p. 89, 1927) as the perfect state of *M. gypseum*. It is, however, only doubtfully a member of the genus *Gymnoascus* [cf. **3**, No. 970].

1602. Keep (J. M.). **The epidemiology and control of Microsporum canis Bodin in a Cat community.**—*Aust. vet. J.*, **35**, 8, pp. 374–378, 1959. [*V.B.*, **30**, p. 64].

A report from the Faculty of Veterinary Science, Univ. Sydney, of 2 natural outbreaks in homes where Persian cats were bred, and of an experimental outbreak in a 'cattery' of 16 common cats, set up for the purpose of the study. Control was effected by regular inspection in Wood's light of all animals, strict cleanliness, and the isolation of recovered and uninfected animals. Accepted therapeutic measures alone did not appear to alter materially the course of the disease in the communities.

On the introduction of the disease into a previously clean community all cats became infected. In many of them, due to their age, their particular shedding pattern, or to delayed immune response, the infection may persist for 6–9 months. These animals are the carriers: on full recovery they may be relatively resistant to infection, but in the meantime, in the absence of control measures, they infect newborn kittens or any clean animals which may be introduced.

1603. Goldberg (H. C.), Arlein (M. S.), Kaplan (S.), Devine (J. J.), & Kindler (J.). **Procedure for the physician and veterinarian in dealing with ringworm of the scalp.**—*J. Amer. vet. med. Ass.*, **135**, pp. 332–333, 1959.

When tinea capitis occurs in a family some physicians are in the habit of recommending that pet cats or dogs, suspected sources of the infection, be destroyed. This is only justified when *Microsporum canis* has been identified, and where it is established that the animal is infected, but even then it suffices to isolate and treat the animal in a disinfected room, where reinfection from furniture, rugs, etc. cannot occur.

1604. Hansen (P.), Ito (K.), Rieth (H.), & El-Fiki (A. Y.). **Beziehungen zwischen humanen und animalen Dermatomykosen. II. Interdigitalmykose bei Industriearbeitern durch Trichophyton verrucosum, den Erreger der Rinderflechte.** [Relationships between human and animal dermatomycoses. II. Interdigital mycosis caused by *T. verrucosum*, agent of cattle ringworm, in Industrial Workers.]—*Bull. pharm. Res. Inst., Osaka*, 24, pp. 5–10, 8 fig., 1960.

Three cases are described from the Mycologischen Laboratorium der Phoenix Gummiwerke, Hamburg-Harburg, Germany [cf. **3**, No. 1448].

1605. El-Fiki (A. Y.) & Rieth (H.). **Cattle ringworm caused by Trichophyton verrucosum as a source of tinea capitis in Children.**—*J. Egypt. med. Ass.*, **42**, 9, pp. 540–543, 1959. [18 ref.]

A case is reported from the Inst. Res. Tropical Med., Cairo, in which the 6-yr.-old son of a farmer and a number of cows and calves were infected by *T. verrucosum*.

1606. Ozegović (L.) & Matić (R.). **O jednoj epizootiji trihofitije goveda na Držnavnom poljoprivrednom dobru 'Semberija'.** [An outbreak of *Trichophyton* infection in Cattle and Horses.]—*Veterinaria, Sarajevo*, **8**, pp. 77–80, 1959. [Engl. summ. *V.B.*, **29**, p. 676.]

During 2½ yr. 400 calves and heifers and 20 foals developed *Trichophyton verrucosum* var. *discoides* infection. Calves separated early from their dams remained healthy. The disease was particularly virulent in a number of imported Friesian cattle.

1607. McPherson (E. A.). **Trichophyton verrucosum ringworm: a search for control agents.**—*Vet. Rec.*, **71**, pp. 425–430, 1959. [*V.B.*, **29**, p. 489.]

At Royal (Dick) Sch. Veterinary Studies, Edinburgh, a paper disc technique was used to screen numerous chemicals for activity against *T. verrucosum*. Of 19 selected for closer study, captan, monosulfiram, sodium hypochlorite, 5 quaternary ammonium compounds, and 7 surface-active anionic detergents were fungistatic at very low conc. Lysol, captan, monosulfiram, sodium hypochlorite, and commercial creosote were effective in 10 min., while only 3 surface active agents were fungicidal at this exposure time. The fungicidal action of 0·25% solutions of commercial detergents suggests the practicability of decontaminating fabrics by soaking them overnight.

1608. Kelley (D. C.) & Anthony (H. D.). **Dermatomycoses of Chinchilla.**—Nat. Chinchilla Breeder, **15**, 9, pp. 12–13, 1959. [Nat. Chinchilla Breeders of America, Res. Bull. No. 37, 3 pp., 3 fig., 1959.] [*V.B.*, **30**, p. 172.]

Studies at Dept Vet. Med., Kansas agric. Exp. Sta., Manhattan, on a limited number of animals indicated that the causative agent of 'fur-chewing' in chinchillas is not a fungus.

Lesions round the face and feet in other chinchillas examined were due to *Trichophyton mentagrophytes*; the condition cleared up in 4 weeks after treatment with an [unspecified] fungicide.

1609. Rieth (H.) & Ito (K.). **Medizinische Mykologie. III. Neuere Klassifizierungssysteme für Dermatophyten.** [Medical mycology. III. Recent systems of classification for dermatophytes.]—*Bull. pharm. Res. Inst., Osaka*, 23, pp. 1–15, 16 fig., 1959.

A general comparison of the systems of classification of Conant *et al.*, Langeron & Vanbreuseghem, Coudert [**2**, No. 1725], and Paldrok (*Acta dermato-vener., Stockh.*, **33**, 1, 1953).

1610. Götz (H.) & Hertlein (E. M.). **Förderung der Züchtung von Dermatophyten durch Cycloheximid-Kaliumtellurit-Selektivnährboden und Soforteinsaat des Züchtungsmaterials.** [Promotion of the culture of dermatophytes by cycloheximide-potassium-tellurite medium and immediate plating of the culture material.]—*Derm. Wschr.*, **139**, 1, pp. 8–13, 1959.

The stimulatory effects of the above-mentioned factors were observed in studies on 131 microscopically fungus-positive samples of skin and nails at the Dermatologische Klinik, Univ. Munich, Germany. The use of fresh as opposed to up to 4-week-old material resulted in an increased positive culture rate of 38–65%. The proportion of *Trichophyton rubrum* in the specimens was appreciably higher than that of *T. mentagrophytes* (61 as against 36%).

1611. Evron-Maoz (R.) & Raubitschek (F.). **The morphology of the pseudoparasitic phase of some dermatophytes.**—*Mycopathologia*, **12**, 2, pp. 111–123, 17 fig., 1960.

A description is given, from Dept Dermatology and Venereology, Hadassah Univ.

Hosp., Jerusalem, of the morphological characteristics of *Trichophyton mentagrophytes*, *T. rubrum*, *T. tonsurans*, *T. violaceum*, *T. schoenleinii*, and *Epidermophyton floccosum* in shake culture (0·3% $(NH_4)_2SO_4$, 0·2% K_2HPO_4, 0·005% $CaCl_2$, and 0·01% soluble difco yeast extract in distilled water, with 1% dextrose in some cases) in 250 ml. Erlenmeyer flasks, containing 100 ml. of medium, agitated on a Ross–Kershaw machine at 148 strokes/min. All 6 spp. seemed to develop in the same manner, as pellets of 2–5 mm. diam. When dextrose was present the growth was faster and, in addition to the pellets, a band of aerial mycelium with various fructifications, according to the sp., developed on the wall of the flask at the highest point reached by the liquid during shaking. Because parts of this aerial mycelium fell into the liquid and confused the results, dextrose cultures were abandoned. There was a strong resemblance between the forms developing in the early stages of pellet growth, and those of the parasitic phase found in clinical lesions. Microconidia were never formed, and *T. mentagrophytes* did not develop spirals.

In addition to the different rates of growth there were certain [illustrated] microscopic features, most pronounced with *T. violaceum*, *T. schoenleinii*, and *E. floccosum*, which seemed to permit differentiation of the various spp. in their pseudoparasitic phase.

1612. Götz (H.). **Zur Morphologie der Pilzelemente im Stratum Corneum bei Tinea (Epidermophytia) pedis, manus, et inguinalis.** [On the morphology of fungal elements in the stratum corneum in tinea (epidermophytia) pedis, manus, and inguinalis.]—*Mycopathologia*, **12**, 2, pp. 124–140, 16 fig., 1960. [Engl. summ.]

At the Dermatologische Klinik und Poliklinik, Univ. Munich, Germany, lesions of tinea were located by preliminary examination of squamae in KOH, and then biopsy skin sections, roughly the size of a finger nail, and reaching down into the corneum at their central parts, were removed under local anaesthetic. Each specimen was divided into 3 parts, 1 for culturing and the other 2 for embedding in paraffin, sectioning in the horizontal or vertical plane, and staining by the periodic acid-Schiff technique.

In the stratum corneum of the palms and soles of the feet, which is of approx. 600 μ diam., the hyphae of *Trichophyton rubrum* were of diam. 1·5–2·5 μ, compared with 3–4·5 μ in the inguinal region, where the stratum corneum is only 30 μ in depth. In culture this fungus produced spores in the horny layers either by division of a fungous filament into mostly rectangular, but sometimes roundish or oval arthrospores, or by swelling of localized sites of hyphae, resulting from the retraction of adjacent protoplasm. One hyphal fusion was noted. *T. mentagrophytes* in the horny layer developed numerous sparsely branched filaments almost all showing septation in the course of arthrospore formation: this tendency was much more marked than in *T. rubrum*. In both fungi round 'balls' of 1·5–2·5 μ diam. were seen, almost exclusively at the tips of short hyphae. It was not clear whether these were spores. Spores produced by the fungus in its parasitic stage are more sensitive to environmental influences than are those produced in culture. The finding of hyphae deep in the follicles in the inguinal region may partly explain the chronicity of inguinal tinea.

1613. Hejtmánek (M.). **K vegetativním anastomosám mezi hyfami dermatofytů.** [Concerning vegetative anastomoses between the hyphae of dermatophytes.]—*Acta Univ. olom.*, **18**, pp. 21–30, 2 pl. (6 fig.), 1959. [21 ref.; Russ., Engl., Germ. summ.]

At Olomouc Univ., Czechoslovakia, mycelial anastomoses [cf. **3**, No. 48] in 19 cultures of *Keratinomyces ajelloi* [cf. **3**, No. 992], *Microsporum gypseum*, *M.g.* var. *nanum*, and *Trichophyton gypseum* var. *asteroides* [*T. mentagrophytes*] were often formed between strs. of different spp. and not always between strs. of the same sp.

from different localities. They are, therefore, unreliable for the diagnosis of mycoses or classification of dermatophytes, and are at their best only an auxiliary criterion.

1614. Bistis (G. N.). **Pleomorphism in the dermatophytes.**—*Mycologia*, **51**, 3, pp. 440–452, 1959. [23 ref.]

From Harvard Univ., Cambridge, Mass., the author discusses, in the light of his studies on *Trichophyton mentagrophytes* at the N.Y. Botanical Garden, views hitherto expressed on the nature of pleomorphism in dermatophytes. He concludes that no data have been found which are incompatible with the view that the phenomenon is one of spontaneous mutation followed by positive selection. No conclusive evidence was obtained that the mutants are auto-induced and in some way related to the age of the parent cell or colony.

1615. Hejtmánek (M.). **Variabilita asimilačních vlastností dermatofytů. I. Růst Microsporon gypseum (Bodin) Guiart et Grigoraki 1928 na substrátech s různým zdrojem dusíku.** [Variability of assimilative properties of dermatophytes. I. The growth of *Microsporum gypseum* on substrates with different nitrogen sources.]—*Acta Univ. olom.*, **18**, pp. 31–56, 4 pl. (24 fig.), 1 graph, 1959. [28 ref.; Russ., Engl., Germ. summ.]

At Olomouc Univ., Czechoslovakia, N assimilation by 5 strs. of *M. gypseum* [**3**, No. 205] was indicated by dry weight much more accurately than by growth rate. Best growth was obtained with glutamic acid followed, in descending order, by casein hydrolysate, urea, asparagine, NH_4NO_3, $(NH_4)_2SO_4$, and KNO_3. Mycelium grew more quickly on inorganic sources than on organic. Morphological features varied according to both source and str.: colonies growing on glutamic acid and casein hydrolysate were dense, granular and profusely sporulating; those on inorganic sources were characterized by thinness, reduced pigmentation and, with exception of KNO_3, abundant macroconidia; some strs. exhibited asteroid colony margins, especially on casein hydrolysate, urea, and asparagine.

1616. Gale (G. R.), Harrington (R. L.), & Pate (A. F.). **The preparation of mycelial suspensions of dermatophytes for metabolic studies.**—*J. invest. Derm.*, **34**, 2, pp. 167–169, 1 fig., 1960.

The use of discs or strips from stationary dermatophyte cultures in respirometric and other studies of these fungi presents a number of technical difficulties. At the Veterans Administration Hosp., Durham, N. Carol., suspensions of intact mycelium of *Microsporum gypseum*, *M. canis*, and *Trichophyton mentagrophytes* are obtained as follows: pellet cultures are grown in 200 ml. volumes of Sabouraud broth in 500 ml. Erlenmeyer flasks on a reciprocating shaker (100 cycles/min. stroke 3·5 cm.). The medium is removed by centrifugation after 3–5 days, and the pellets from each flask, washed twice in water or buffer, are homogenized in 100 ml. of buffer by use of a Waring blender (standard cup, large rotary blades, 40 sec.). The ability of a suspension to pass through a 1 ml. Kimax volumetric pipette without clogging has been found to be a good criterion for the complete disruption of the pellets.

1617. Merkel (M.). **Investigations on the chemical structure of the genus Achorion. II. Chemical structure of Achorion quinckeanum.**—*Bull. Acad. polon. Sci.*, Sér. Sci. biol., **7**, 12, pp. 501–505, 1959.

Further studies [**3**, No. 1128] were devoted to a more accurate definition of the 2 morphologically divergent spp., *A.* [*Trichophyton*] *quinckeanum* and *A.* [*T.*] *schoenleinii*, the former of which is stated to be pathogenic only to animals and the latter exclusively to man. In general, the 2 spp. were found to be chemically related to each other and to *T. gypseum* [*T. mentagrophytes*]. Thus, the N and protein contents in the nucleoprotein fractions of all 3 spp. are similar, as are the

amounts of sugars in the sugar fractions; however, the 2 former spp. contain more N and glucosamine than *T. mentagrophytes* and the molecules of simple sugars in the chromatograms are also different.

As regards the cell membrane, that of *T. schoenleinii* and *T. quinckeanum* appears to be formed of chitin, while that of *T. mentagrophytes* and *T. plicatile* [**3**, No. 1129] is composed of cellulose.

1618. Prince (H. N.). **Effect of pH on the antifungal activity of undecylenic acid and its calcium salt.**—*J. Bact.*, **78**, 6, pp. 788–791, 1 graph, 1959.

In tests at the microbiol. Lab., Res. Dept, Wallace & Tiernan Inc., Belleville, N.J., the antifungal activities of undecylenic acid and of its Ca salt against a range of dermatophytes and 2 *Candida* spp. did not vary over the pH range 4·5–6·0, and within this range the min. inhibitory conc. of the undissociated acid remained constant.

Over the range 6·5–9·0, the activity of the acid against *Trichophyton mentagrophytes* did not bear a simple relation to the conc. of undissociated acid.

1619. Prince (H. N.). **Total lipid of Trichophyton mentagrophytes.** –*J. Bact.*, **79**, 1, p. 154, 1960.

An earlier report from the Res. Dept, Wallace & Tiernan Inc., Belleville, N.J., that dermatophytes were extremely susceptible to long chain fatty acids, while non-pathogenic fungi were not [**1**, No. 619], led to the question whether the susceptibility of the former to these lipophilic agents was attributable to a high mycelial fat content.

A 10 day peptone broth culture of str. WT 609 of *T. mentagrophytes*, typically sensitive to C_6–C_{12} fatty acids, yielded 15·2% total lipid, not a high figure. Detailed comparison of the lipid data with those reported for other pathogenic and non-pathogenic fungi [cf. **1**, No. 1052] showed no correlation between fat level and susceptibility to fatty acids.

1620. Tomatsu (S.). **A serological study of experimental dermatomycoses using an antigen prepared from fungus mechanically disintegrated. I. Antigenicity of antigen from Tr. mentagr. v. ast. mechanically disintegrated. II. Precipitation in agar gel using an antigen prepared from Trichophyton mentagr. var. ast. mechanically disintegrated.**—*Bull. pharm. Res. Inst., Osaka*, 23, pp. 16–23, 4 fig., 1959; 24, pp. 11–15, 3 fig., 1960.

The mycelium of *Trichophyton mentagrophytes* var. *asteroides* [**3**, No. 1289] used in the work described in the 1st paper, was harvested from a 4 week culture on Sabouraud medium at 27°, washed, and freeze-dried for 8 hr. It was then broken down (1) by use of a hammer, using Matsumoto-Nagao's method [no details], which is a routine at the Institute, or (2) by rough disintegration in a mortar, to give a 'routine antigen'. Both of these preparations were fractionated by an identical schedule, yielding 'somatic extract', crude polysaccharide, crude protein, and crude lipid, which fractions were compared in skin reaction and serological tests on experimentally infected rabbits. The antigen yield from Matsumoto-Nagao's method was higher, with the exception of crude lipid, and was more suitable for serological reactions, particularly complement fixation. In skin reactions and humoral reactions the lipid fractions obtained by the 2 methods were of equal value.

The 2nd paper describes the use of these antigens in an agar gel precipitation technique, basically that described by Bowen (*J. Immunol.*, **68**, p. 429, 1952). Again the antigen prepared by Matsumoto-Nagao's method was superior.

1621. Hejtmánková-Uhrová (Mme N.). **K problému chemoresistence dermatofytů.** [Concerning the problem of chemoresistance in dermatophytes.]—

Acta Univ. olom., **18**, pp. 5–20, 2 pl. (9 fig.), 11 graphs, 1959. [20 ref.; Russ., Engl., Germ., summ.]

The modified diffusion (Oxford cup) method, the immersion technique, and a method involving addition of antimycoticum (phenylmercuridibutylnaphthylsulphonate) to the medium were used at Olomouc Univ., Czechoslovakia, for resistance tests on 3 phases of *Trichophyton gypseum* var. *asteroides* [*T. mentagrophytes*] [**2**, No. 1365]: (1) as a saprophyte grown for a long period on nutrient agar; (2) parasitizing guinea-pig hair [cf. **3**, No. 494]; and (3) as primary agar cultures from infected hair. Phases (2) and (3) proved more resistant than phase (1), a fact which can be explained by the 'protective' effect of the hair in the immersion method, and generally by biochemical differences developed in the dermatophyte owing to its different modes of life.

1622. Medagyesi (G.), Katona (K.), & Gerenczer (N.). **Effect of derivatives of phenoxyacetic acid on some pathogenic fungi.**—*Vitamine u Hormone*, **8**, pp. 350–361, 1959. [*Chem. Abstr.*, **54**, 6, col. 5813d, 1960].

In laboratory tests at Sopron, Hungary, 2,4-dichlorophenoxyacetic acid (2,4-D), 2,4,5-trichlorophenoxyacetic acid (2,4,5-T), and 2-methyl-4-chlorophenoxyacetic acid (MCPA) were generally inhibitory at from 0·0025 to 1% to *Trichophyton gypseum granulosum* [*T. mentagrophytes*], *Candida albicans*, *Trichothecium roseum*, and *Achorion* [*Trichophyton*] *gallinae*. MCPA and/or a combination of 2,4-D and 2,4,5-T also exerted in most instances a comparable effect on *Epidermophyton floccosum*, *T. ochropyraceum*, *T. violaceum* var. *niger*, *T. rubrum*, and several unidentified strs.

1623. Londero (A. T.) & Netto (M. V.). **Micoses dos pelos observados em Santa Maria, Rio Grande do Sul.** [Mycoses of the hair in Santa Maria, Rio Grande do Sul.]—*Hospital* (*Rio de J.*), **56**, 2, pp. 159–164, 1959.

During 1953–59 2 cases of white piedra were diagnosed [see below]. It is claimed that Castellani's trichomycosis [*Corynebacterium tenuis*] was observed in 50·9% of a group of adults and in 21% of the students at Santa Maria Univ., Brazil. Of these last, 63 cases were the yellow or white, 5 the red, and 2 the black variety.

1624. Londero (A. T.) & Fischman (O.). **Piedra branca ; a propósito de uma modalidade do Rio Grande do Sul (Brasil) e de seu agente causador.** [White piedra; concerning a variety from Rio Grande do Sul (Brazil) and its causative agent.]—*Rev. Inst. Med. trop. São Paulo*, **1**, 4, pp. 260–265, 2 fig., 1959. [Engl. summ. 22 ref.]

The authors fully describe 2 cases of white piedra (*Trichosporon beigelii*) in Santa Maria, Rio Grande do Sul [see above]. Two previous cases in the same State, reported in Pôrto Alegre by Ribeiro, 1941, were attributed to *T. ribeiroi* Moraes (*Cultura med.*, **3**, pp. 1–18, 1941), but this fungus is now thought to be identical with *T. beigelii*.

1625. Rodriguez (Obdulia). **Cromoblastomicosis. Tratamiento con calciferol.** [Chromoblastomycosis. Its treatment with calciferol.]—*III Cong. ibero-latamer. Derm.* (*Méx.*), pp. 182–189, 8 fig., 1959. [*T.D.B.*, **57**, p. 296.]

To a patient with a lesion of the left foot 600,000 units were administered by mouth, twice a week for 6 months, once a week for a 2nd 6 months, and every 15 days for a 3rd. Cure was obtained after 1 yr. and 6 months later no relapse had occurred. A great improvement was noted in a 2nd patient with lesions in a forearm after 10 months treatment. A 3rd patient was being treated and slight improvement was evident after a few months. The 3 cases are attributed to *Phialophora pedrosoi* [**3**, Nos. 245, 518].

1626. Pepys (J.), Riddell (R. W.), Citron (K. M.), Clayton (Y[vonne] M.), & Short (E. I.). **Clinical and immunological significance of Aspergillus fumigatus in the sputum.**—*Amer. Rev. Respir. Dis.*, **80**, 2, pp. 167–180, 1 fig., 1 diag., 1959. [Span., Fr. summ. 16 ref.]

At Brompton Hosp., London, *A. fumigatus* developed in cultures on Sabouraud's agar from the sputa of 145 of 2,080 patients (7%), occurring with a statistically greater frequency in asthmatic subjects than in those with other respiratory diseases (8·3 as against 3·4%). A detailed investigation of 27 persons harbouring the fungus revealed 2 groups, viz. one of 16 hypersensitive to bronchial and skin tests with extracts of *A. fumigatus* and in nearly all cases also to those of *A. flavus*, *A. glaucus*, *A. nidulans*, *A. niger*, and *A. terreus*, and another of 11 lacking these features. Precipitating antibodies to *A.* extracts were demonstrated in the sera of 13 patients with *A. fumigatus* in the sputum.

The *A. fumigatus* extracts contained at least 2 main antigens, as shown by agar-gel diffusion tests with human sera and rabbit antisera for the same sp., while the other *A.* spp. possessed at least 1 antigen in common with *A. fumigatus*. Precipitins against common antigenic components in *A.*, *Cladosporium*, and *Penicillium* spp. were detected in rabbit *A. fumigatus* antiserum and in a human serum.

These findings suggest that hypersensitivity to *A. fumigatus* is related to the appearance of pulmonary eosinophilia and that the presence of a precipitating antibody may contribute to the production of Arthus-type reactions in the lungs.

1627. Vantrappen (G.), Simons (C.), Van de Woestijne (K. P.), & Gyselen (A.).—**Intracavitary and intrabronchial fungus masses.**—*Dis. Chest*, **35**, 5, pp. 528–532, 5 fig., 1959. [Sp., Fr., Germ. summ.]

The 1st of the 2 cases here reported from the Dept Chest Diseases, Louvain, Belgium, was of aspergillomata (*Aspergillus fumigatus*) in the left and right apices in a 52-yr.-old man. Such a bilateral localization, visible on X-ray films, is a great rarity. In the 2nd, in a 53-yr.-old woman, a fungus mass, as seen in aspergillomata, was found filling the entire left bronchial tree. Septate mycelium was present, but the fungus was not cultured.

1628. Grcevic (N.) & Matthews (W. F.). **Pathologic changes in acute disseminated aspergillosis. Particularly involvement of the central nervous system.**—*Amer. J. clin. Path.*, **32**, 6, pp. 536–551, 20 fig., 1959. [Interlingua summ. 54 ref.]

This is a comprehensive report from the Univ. Michigan med. Center, Ann Arbor, on 3 fatal cases of infection by *Aspergillus fumigatus*. All the patients (males aged 36, 13, and 22) were treated with antibiotics and involvement of the central nervous system was severe. The process apparently originated in the bronchopulmonary system and spread haematogenously in a manner resembling bacterial septicaemia. Findings suggestive of a possible hypersensitivity reaction were noted in all the cases.

1629. Porta (E. A.). **Endocarditis micótica por Aspergillus en un caso de estenosis subaórtica.** [Mycotic endocarditis due to *Aspergillus* in a case of subaortic stenosis.]—*Rev. Hosp. Niños (B. Aires)*, **1**, 1, pp. 37–43, 1959. [Engl. summ.]

After operation at med. Sch., Washington Univ., Saint Louis, Mo., a case of subaortic stenosis developed symptoms of a septic endocarditis and the 10-yr.-old patient died showing lesions of the aortic valve and metastasis in the spleen, pancreas, liver, lungs, brain, etc. Hyphae were evident after Gridley staining but no cultures were obtained. The author suggests that the fungus was introduced with surgical materials.

1630. Beer (J. V.). **The control of aspergillosis in bird collections.**—*Wildfowl Trust, Slimbridge, Glos., 10th Ann. Rep. 1957–1958*, pp. 41–42, 1959.

The preventive measures suggested for the control of aspergillosis (*Aspergillus fumigatus*) in bird collections are treatment of soil under incubation boxes with pentachlorophenol (0·5% w w) and damping slightly with 1% solution of sodium pentachlorophenate (NaPCP). Sacks, if used, should be boiled in disinfectant; after winter storage they should also be boiled before use. NaPCP can be used in any cleaning operation, particularly when mouldy material is involved. Incubators and vacant rooms should be cleaned out and fumigated with a mixture of 35 ml. formaldehyde+17·5 g. $KMnO_4$/100 cu. ft.

1631. Guha (A. N.). **Aspergillus fumigatus infection in Goats.**—*Indian vet. J.*, **36**, 5, pp. 252–254, 1959. [*V.B.*, **30**, p. 116.]

At Dept Pathology, Bengal Veterinary College, Calcutta, *A. fumigatus* was repeatedly cultured from granulomatous lesions on the scrotum and the inner aspects of the thighs of a goat which had been treated unsuccessfully for 3 months with various dyes, salicylic acid ointment, and [unspecified] antibiotics. Subcutaneous inoculation of the cultures into another goat led to the development of similar lesions, from which the fungus was re-isolated.

1632. De Vries (G. A.). **Aspergillus fumigatus and Actinomycetes in air.**—*Acta allerg., Kbh.*, **15**, 2, pp. 99–106, 2 fig., 1960.

As part of a study on aspergillosis at the Centraalbureau voor Schimmelcultures, Baarn, Netherlands, 153 Petri plates of malt agar (pH 7·0) and 78 of oatmeal agar (pH 8·5) were exposed at 86 localities, both indoors and outdoors, between Apr. and Sept. *A. fumigatus* grew on 17 malt and 3 oatmeal plates incubated at 37° and 5 malt plates at 28°. Actinomycetes grew on 36 oatmeal and 11 malt plates at 37° and 3 oatmeal plates at 28°. *Streptomyces* and *Micromonospora* spp. were identified.

1633. Abernathy (R. S.). **Clinical manifestations of pulmonary blastomycosis.**—*Ann. intern. Med.*, **51**, 4, pp. 707–727, 6 fig., 1959. [Interlingua summ. 15 ref.]

This is a summary of 35 cases of N. American blastomycosis [*Blastomyces dermatitidis*] seen at the Univ. Arkansas med. Center. Disseminated lesions occurred in 28 patients, 3 exhibited cutaneous lesions only, and 4 had only pulmonary infection. Special study was made of the clinical manifestations of pulmonary involvement, which was present in 27 cases: symptoms included cough, sputum, fever, chills, haemoptysis, significant dyspnoea, and pleuritis. Physical findings were in general unimpressive, though free pleural effusions and pneumothorax were seen. Roentgenographic findings were not specific: the most frequent pattern was of an infiltrative or fibrotic reaction, frequently with pleural reactions and thoracic adenopathy. No specifically diagnostic clinical pattern could be established for pulmonary blastomycosis, though the occurrence of parenchymal pulmonary disease, in association with cutaneous, pleural, osseous, or thoracic nodal involvement, is strongly suggestive of the disease. Blastomycosis should, however, be considered in any pulmonary disease of undetermined origin.

1634. Carmody (E. J.) & Tappen (W.). **Blastomycosis meningitis : report of a case successfully treated with amphotericin B.**—*Ann. intern. Med.*, **51**, 4, pp. 780–791, 5 fig., 1959. [Interlingua summ. 25 ref. *T.D.B.*, **57**, p. 294.]

A 22-yr.-old Negro was admitted to the San Diego County Hosp., Calif., on diagnosis of a skin granuloma of the right mandible due to *Blastomyces dermatitidis*. He complained of headache and stiffness of the neck, and the fungus was also present in the spinal fluid. Amphotericin B treatment was instituted, with dosage

gradually increasing to 75 mg./infusion/day. The total dosage was 2·65 g. over a 57 day period. Chills and occasional nausea were seen in the early stages, but later these side effects diminished. Response was good, with gradual improvement in the spinal fluid and the clinical appearance of the patient, who is now under observation as an outpatient.

1635. Schwartzman (R. M.), Fusaro (R. M.), & Orkin (M.). **Transmission of North American blastomycosis. Possible case of transmission from Dog to Human.**—*J. Amer. med. Ass.*, **171**, 16, pp. 2185–2189, 6 fig., 1959.

From the Division of Dermatology, Univ. Minnesota, are reported 2 fatal cases of (*Blastomyces dermatitidis*) infection, one in a young Golden Labrador dog, and the other, about 3 months later, in a 52-yr.-old man, a friend of the owners of the dog. The disease is relatively rare in the locality, and the man may have contracted the disease from the dog. It is suggested that, when a human case of the disease is diagnosed, pets and livestock in contact with the case should be subjected to a comprehensive and careful examination for fungal infection.

1636. Saëz (H.). **Le Geotrichum candidum Link, hôte fréquent du tube digestif de quelques animaux sauvages en captivité.** [*G. candidum* a frequent inhabitant of the digestive tube of certain wild animals in captivity.]—*Bull. Soc. mycol. Fr.*, **75**, 2, pp. 170–176, 2 fig., 1959. [18 ref.]

Studies at Lab. d'Éthologie des Animaux Sauvages, Muséum nat. d'Histoire naturelle, Paris, showed that *G. candidum* was regularly present in the faeces of the ant-eater, European otter (*Lutra lutra*), and okapi in the Zoological Gardens, Vincennes, less frequently in those of the giraffe, *Axis axis*, *Sika pseudaxis*, *Hylephus porcinus*, and *Boselaphus tragocamelus*, and more rarely in those of the ostrich, *Aptenodytes patagonica*, *Spheniscus humboldti*, and *L. cinerea* [cf. **3**, Nos. 573, 1106].

1637. Rosenthal (S. A.) & Furnari (D.). **Pagana-Levin medium for the isolation and identification of Candida albicans.**—*J. invest. Derm.*, **34**, 3, pp. 229–230, 1960.

At New York Univ. Postgrad. med. Sch., Pagana-Levin medium [**3**, No. 1499] gave satisfactory results when used to identify *Candida albicans* on skin scrapings from 95 patients with clinical moniliasis.

1638. Basu (N.), Mazumdar (Rekha), & Banerjee (A. K.). **Chlamydospore formation in Candida albicans in different media.**—*Bull. Calcutta Sch. trop. Med.*, **7**, 3, pp. 110–111, 1959.

Results indicated that Nickerson and Mankowski's medium was best for the formation of chlamydospores for quick identification of *C. albicans* [cf. **2**, No. 341].

1639. Pospíšil (L.). **Chromatography of polysaccharide and protein complexes of some species of Candida.**—*Čsl. Derm.*, **34**, pp. 158–161, 1959. [*Chem. Abstr.*, **54**, 2, col. 1654h, 1960.]

At Faculty of Med., Brno, Czechoslovakia, chromatograms of the protein hydrolysates of *Candida albicans*, *C. tropicalis*, *C. pseudotropicalis*, *C. krusei*, and *C. guilliermondii* revealed no significant interspecific differences. Most sugars in the hydrolysates of polysaccharides from the spp. examined behaved like aldohexoses, while the performance of a small proportion resembled that of a standard sample of lactose. There were quantitative differences in the polysaccharide fractions of the several spp.

1640. Yamabayashi (H.). **A zymosanlike substance extracted from Candida albicans.**—*Med. J. Osaka Univ.*, **9**, 1–2, pp. 11–21, 1958.

At the Osaka Univ. med. Sch., Japan, simultaneous mixed inoculation of *C. albicans*

with *Proteus vulgaris* or *Pseudomonas aeruginosa* caused a marked increase in the mortality rate of mice. The effect was similar whether living or dead cells of the fungus were used. The factor responsible for the enhancement of virulence was shown to reside in the polysaccharide fraction of *C. albicans*, which inactivated the 3rd component of complement in conjunction with properdin (*J. exp. Med.*, **103,** 823–829, 1956) and Mg^{++}.

1641. Batista (A. C.), Oliveira (D.), & Silveira (G.). **A incidência de fungos Candida e Torulopsis na bilis de portadores de colecistitis.** [The incidence of fungi of the genera *Candida* and the *Torulopsis* in the bile of patients with cholecystitis.]—*Ginecologia, Recife*, **14**, 2, pp. 45–48, 1959. [Engl. summ.]

Yeasts were cultivated from the bile, obtained by duodenal catheterisation, of 21 of 33 patients.

1642. Viswanathan (R.) & Randhawa (H. S.). **Candida viswanathii sp. novo isolated from a case of meningitis.**—*Sci. & Cult.*, **25**, pp. 86–87, 1 fig., 1959.

At Univ. Delhi an isolate of *Candida* from cerebro-spinal fluid in a fatal case of meningitis was found to resemble the rough form of *C. albicans* in certain respects, but the presence of β-glucosides, indicated by ability to assimilate cellobiose and salicin, and the splitting of arbutin were a conspicuous difference. Secondly, the formation of a pseudomycelium without chlamydospores is atypical for *C. albicans*. The fungus is considered to be a new sp., for which the name *C. viswanathii* is proposed.

1643. Saëz (H.). **Recherche de Candida albicans dans les fèces de quelques animaux sauvages en captivité.** [The search for *C. albicans* in the faeces of some wild animals in captivity.]—*Rech. Méd. vét.*, **135**, 9, pp. 629–633, 1959. [Engl., Span. summ.]

Studies at the Lab. d'Éthologie, Muséum nat. Histoire naturelle, Paris, showed that the mycoflora of wild animals in the Zoological Gardens, Vincennes, is numerous and diversified. *C. albicans* was isolated from the faeces of healthy ant-eaters, European (*Lutra lutra*) and Indochinese (*L. cinerea*) otters, and *Aptenodytes patagonica* [cf. **3**, 1106].

1644. Quadras-Bordas (María Luisa) & Quadras-Bordas (María Victoria). **Candidiasis o moniliasis vulvovaginal.** [Vulvovaginal candidiasis or moniliasis.]—*Clín. y. Lab.*, **68**, 403, pp. 271–277, 1959.

A review.

1645. Pereira-Barreto (M.), Zago (H.), Oliveira (P. V.), Marques (W.), Mendonça (J.), Guimarães (J.), & Vila (E.). **Contribuïção para o estudo da tricomonadiase vaginal. O papel da T. vaginalis e das especies de Candida na etiologia das leucorréias.** [Contribution to the study of vaginal trichomoniasis. The pathogenic activity of *T. vaginalis* and of species of *Candida* in leucorrhoea.]—*Rev. Ass. med. bras.*, **5**, 2–3, pp. 138–148, 1959. [Engl. summ.]

In this further study [**3**, No. 1030] among the women infected by *Candida* 25% showed no lesions, 8·3% showed vaginitis, 40·6% vaginitis and cervicitis, and 26·4% cervicitis.

1646. Arbolí (S.). **Clínica de la candidiasis vaginal.** [Clinical aspects of vaginal candidiasis.]—*Rev. esp. Obstet. Ginec., Valencia*, **18**, 105, pp. 172–174, 1959.

Of 61 women with yeast-like fungi in the vagina on direct examination, 70% showed leucorrhea and 60·5% pruritus. Treatment with nystatin in 13 cases gave a clinical cure of 12 and the fungi disappeared from 9.

1647. Taschdjian (Claire L.). **Experimental vaginal candidiasis in Mice; its implications for superficial candidiasis in humans.**—*J. invest. Derm.*, **34**, 2, pp. 89–94, 4 fig., 1960.

At Dept Dermatology, New York Univ. Postgraduate med. Sch., inoculum of *Candida albicans* from 48 hr. Sabouraud slant cultures was introduced into the vaginas of virgin white mice, by use of a knobbed glass rod, at various stages in the oestrous cycle. Infection occurred only when the inoculation was performed at the onset of oestrus or during very early metoestrus, i.e. when the vaginal epithelium was fully cornified. It lasted 2–5 days, and was characterized by marked hyperkeratosis and exfoliation of the horny layer of the vagina, and by slight inflammatory reaction and hyperaemia in the subcutaneous tissues: mycelium predominated in the lower layers of the stratum corneum, while there were numerous blastospores in the upper layers. Vaginal smears taken during oestrus gave a positive reaction for disulphide and a negative reaction for sulphhydryl, while sections were strongly positive for sulphhydryl in the stratum granulosum.

These preliminary findings, together with other phenomena described in the literature, are taken to indicate that the pathogenicity of *C. albicans* may be partly related to the thiol content of the epidermis (cf. Nickerson *et al.*, *Science*, **115**, p. 676, 1952; **124**, p. 722, 1956).

1648. Eelkema (H. H.), Scanlon (P. W.), Colby (M. Y.), & Ulrich (J. A.). **Thrush complicating radiotherapy of the mouth and neck.**—*Radiology*, **72**, 1, pp. 26–29, 2 fig., 1959. [Interlingua summ.]

At the Mayo Clinic, Rochester, Minn., all the cultures made from oral lesions in 7 patients undergoing X-ray or cobalt-60 therapy for malignant disease of the head and neck were positive for *Candida albicans* and in 4 cases in which smears were directly examined the fungus was found as mycelium in the membrane. This pathological overgrowth is attributed, at least in part, to damage to the tissue from irradiation while another potential factor is the effect on the normal oral flora of changes in the secretions of the salivary glands. The use of nystatin [mycostatin] is recommended as a remedial measure.

1649. Malloy (M. B.) & Woodruff (C. W.). **Addison's disease in three six-year-old Boys.**—*J. Dis. Child.*, **95**, p. 364, 1958.

The authors report 3 cases of Addison's disease in 6-yr.-old boys. One child had also hypoparathyroidism and moniliasis [*Candida albicans*], and died. They note the association between Addison's disease and hypoparathyroidism or moniliasis. Of 12 cases published previously, 5 were associated with hypoparathyroidism or moniliasis or had a sibling with this syndrome. The combination of disease should be looked for in all cases.

1650. Lees (J. J.). **Moniliasis of the larynx and hypopharynx.**—*J. Laryng.*, **73**, 9, pp. 619–620, 1959.

Candida albicans infection of a 59-yr.-old Glasgow woman, following the use of an antibiotic nasal spray, responded to treatment with mycostatin.

1651. Albores (J. M.), Passarino (F.), Plotnicoff (J.), & Pan (Elsa). **Observaciones sobre 100 casos de muguet tratados con tópicos de nistatina y violeta de genciana.** [Observations on 100 cases of thrush treated with topical applications of nystatin and gentian violet.]—*Arch. argent. Pediat.*, **51**, 6, pp. 335–344, 1959. [Engl. summ.]

An aqueous suspension of 50,000 units of nystatin and a 1% solution of gentian violet were used. Good results were obtained in 72% of the patients treated with

nystatin and in 69% of those treated with gentian violet. In severe cases nystatin proved to be more effective than gentian violet; 61·5 and 43·7 successes, respectively.

1652. Papazian (C. E.) & Koch (R.). **Monilial granuloma with hypothyroidism. Report of a case treated with amphotericin B.**—*New Engl. J. Med.*, **262**, 1, pp. 16–18, 4 fig., 1960.

A 14-yr.-old girl at the Children's Hosp., Los Angeles, Calif., recovered from severe infection by *Candida albicans* of 10 yr. duration after therapy with amphotericin B (363 mg. as 31 intravenous doses) and thyroid medication.

1653. Tsuburo (E.). **The place of trichomycin in the treatment of candidiasis.**—*Asian med. J.*, **1**, 1, pp. 56–58, 1958.

In vitro experiments at the Osaka Univ. Sch. Med., Japan, showed the min. inhibitory concentrations of trichomycin were 0·6 μg./ml. for *Candida albicans* [**3**, Nos. 1171, 1177]; 0·01 μg./ml. for *Cryptococcus neoformans*, and 2 μg./ml. for *Trichophyton interdigitale*. Lethal dosage of trichomycin in mice was 4–5 mg./kg. by intraperitoneal injection, but no fatal toxicity was demonstrated following oral administration of up to 36 mg./kg. for 10 days.

1654. Sánchez-Marroquín (A.). **Acción de agentes antifúngicos sobre levaduras del género Candida** [The action of antifungal agents on yeasts of the genus *Candida*.]—*Rev. lat.-amer. Microbiol.* (*Méx.*), **2**, 2, pp. 89–98, 1959. [Engl. summ.]

Assay of 10 antifungal agents against 23 *Candida* strs. using several techniques (plate dilutions, tube dilutions, replica strip gradient plate, Szybalski's gradient plate) showed the most active to be candicidin (0·05–0·5 μg/ml.), amidomycin (0·05–0·75 μg/ml.), and amphotericin B (0·3–10 μg/ml.). The combinations candicidin-amphotericin B, candicidin-amidomycin, and nystatin-amphotericin B showed additive effects and a synergistic effect is attributed to the combination amidomycin-amphotericin B.

1655. Younger (D.), Epifano (L. D.), Dipillo (F.), Hoffman (I.), Thaler (E.), & Yarvis (M.). **A clinical comparison of the side effects of tetracycline-nystatin and tetracycline.**—*Antibiot. Med.*, **6**, 4, pp. 216–221, 1959.

Of 204 patients treated at the Dept Med., Long Island Coll. Hosp., Brooklyn, N.Y., with tetracycline phosphate complex, 3 developed clinically detectable moniliasis; of 196 patients treated with tetracycline phosphate complex and nystatin none developed moniliasis. The incidence of side effects appeared to be lower in the latter group.

1656. Nouvel (J.) & Saëz (H.). **Formes observées dans six candidoses survenues chez des animaux du Parc Zoologique.** [Forms observed in 6 cases of *Candida* infection in animals in the Zoological Gardens.]—*Bull. Mus. Hist. nat., Paris*, Sér. 2, pp. 377–378, 1959.

A study at the Lab. d'Éthologie des animaux sauvages, Paris, of 6 cases of *Candida* infection observed during 1958 in animals at the Zoological Gardens, Vincennes, showed that the infections were of 3 kinds. A pharyngeal form, due to *C. albicans*, was found affecting a sea-elephant (*Mirounga leonina*) which had been brought to the Zoo 3 yr. before, and which had died. A bronchial form, also due to *C. albicans*, affected a 4-yr.-old *Macaca sylvana*. An intestinal form affected *Phrenicopterus ruber*, suffering from an infection of the lung resembling attack by *Aspergillus* sp., *Antilopes cercivapra*, and a very young *Macaca* sp. (all *C. albicans*) and a 15-days-old *Lama glama pacos* (*C. tropicalis*).